



# STIC Search Report

**EIC 1700**

**STIC Database Tracking Number: 137347**

**TO: Norca Torres**  
**Location: Rem 6A14**  
**Art Unit : 1771**  
**November 16, 2004**

**Case Serial Number: 10/607092**

**From: Les Henderson**  
**Location: EIC 1700**  
**REM 4B28 / 4A30**  
**Phone: 571-272-2538**

**Leslie.henderson@uspto.gov**

## Search Notes



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Noren Turner Examiner #: 76921 Date: \_\_\_\_\_  
Art Unit: 1771 Phone Number 30 \_\_\_\_\_ Serial Number: 16/607,092  
Mail Box and Bldg/Room Location: Rem 6A14 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Flame Resistant, high visibility, anti-static fabric  
Inventors (please provide full names): Campbell, Gibson and Johnson & Wallace

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

**STAFF USE ONLY**Searcher: LA

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: \_\_\_\_\_

Date Completed: 10/16/04Searcher Prep & Review Time: 60

Clerical Prep Time: \_\_\_\_\_

Online Time: 300**Type of Search**

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) \_\_\_\_\_

Bibliographic ☒

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

**Vendors and cost where applicable**STN \$ 520.66Dialog \$ 82.16

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

Mellerson, Kendra

From:  
Sent:  
To:  
Subject:

Unknown@Unknown.com  
Monday, November 08, 2004 3:11 PM  
STIC-EIC1700  
Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= 137347

LogNumber=

Searcher=

SearcherPhone=

SearcherBranch=

MyDate=Mon Nov 8 15:11:00 EST 2004

submitto=STIC-EIC1700@uspto.gov

Name=Norca Torres

Empno=76921

Phone=571-272-1484

Artunit=1771

Office=REM 6A14

Serialnum=10/607,092

PatClass=442/181,301,302,167,130,164; 428/920,921,365

Earliest=May 9, 2001

Format1=paper

Format3=email

Searchtopic=

(1)  
a yarn comprising modacrylic fibers and aramid fibers ✓  
or a yarn made from modacrylic fibers and high energy absorptive fibers  
or a yarn made from modacrylic fibers and [polybenzimidazole or PBI or PBO] or p-aramid or m-  
aramid]

(2) a yarn made from anti-static fibers and modacrylic fibers ✓  
or a yarn from stainless steel fibers and modacrylic fibers

(3) a fabric made from modacrylic fibers and anti-static fibers ✓  
or a fabric made from modacrylic fibers and stainless steel fibers ✓

Abstract

A fabric for use in safety apparel comprising a first set of yarns comprising modacrylic fibers, and a second set of yarns comprising anti-static fibers. The fabric meets the Federal Test Method Standard 191A, Method 5931 for electrostatic decay, and the Electrostatic Discharge Association Advisory ADVI 1.2-1995 voltage potential.

Comments=

send=SEND

=&gt; d his ful

(FILE 'HOME' ENTERED AT 09:28:33 ON 16 NOV 2004)

FILE 'HCA' ENTERED AT 09:29:48 ON 16 NOV 2004

L1 25631 SEA ABB=ON PLU=ON CAMPBELL ?/AU  
 L2 13418 SEA ABB=ON PLU=ON GIBSON ?/AU  
 L3 74781 SEA ABB=ON PLU=ON JOHNSON ?/AU  
 L4 11933 SEA ABB=ON PLU=ON WALLACE ?/AU  
 L5 5 SEA ABB=ON PLU=ON L1 AND L2 AND L3 AND L4  
 D SCAN  
 L6 3 SEA ABB=ON PLU=ON L5 AND FIBER?  
 D SCAN  
 D L6 1-3 ALL  
 SEL L6 RN

FILE 'REGISTRY' ENTERED AT 09:36:54 ON 16 NOV 2004

L7 3 SEA ABB=ON PLU=ON (24938-64-5/BI OR 25035-37-4/BI OR  
 12597-68-1/BI)  
 D SCAN  
 D SCAN  
 E 24938-64-5/RN  
 L8 1 SEA ABB=ON PLU=ON 24938-64-5/RN  
 D SCAN  
 E 25035-37-4/RN  
 L9 1 SEA ABB=ON PLU=ON 25035-37-4/RN  
 D SCAN  
 E 12597-68-1/RN  
 L10 1 SEA ABB=ON PLU=ON 12597-68-1/RN  
 D SCAN  
 D SCAN L8  
 E MODACRYLIC/CN  
 E MODACRYLIC FIBERS/CN  
 L11 1 SEA ABB=ON PLU=ON "MODACRYLIC FIBERS"/CN  
 D SCAN  
 E STAINLESS STEEL FIBERS/CN  
 L12 1 SEA ABB=ON PLU=ON "STAINLESS STEEL FIBERS"/CN  
 D SCAN L12  
 D L12 RN  
 E ACRYLONITRILE/CN  
 L13 1 SEA ABB=ON PLU=ON ACRYLONITRILE/CN  
 E ARAMID/CN  
 E META-ARAMID FIBER/CN  
 E PARA-ARAMID/CN  
 E ARAMID/CN  
 L14 1 SEA ABB=ON PLU=ON ARAMID FIBER#/CN  
 D SCAN

FILE 'HCA' ENTERED AT 10:51:54 ON 16 NOV 2004

L15 0 SEA ABB=ON PLU=ON L11  
 L16 0 SEA ABB=ON PLU=ON L12  
 L17 27286 SEA ABB=ON PLU=ON L13  
 L18 413391 SEA ABB=ON PLU=ON ACRYL?  
 L19 417410 SEA ABB=ON PLU=ON L17 OR L18 OR ACRYLONITRIL?  
 L20 0 SEA ABB=ON PLU=ON L14  
 L21 17511 SEA ABB=ON PLU=ON ?ARAMID?  
 L22 1565473 SEA ABB=ON PLU=ON FABRIC? OR TEXTILE? OR CLOTH? OR GARMENT?  
 OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB? OR SPIN?  
 OR SPUN? OR FIBER?



L23 1090739 SEA ABB=ON PLU=ON FIBER? OR FIBR? OR FILAMENT? OR THREAD? OR  
 STRAND? OR RIBBON? OR FILIFORM?  
 L24 65018 SEA ABB=ON PLU=ON (FLAME? OR FIRE?) (W) (PROOF? OR RETARD? OR  
 RESIST?) OR FIREPROOF? OR FLAMEPROOF?  
 L25 160118 SEA ABB=ON PLU=ON (COMBUST? OR INCINERAT? OR BURN##### OR  
 FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR CARBONIZAT? OR  
 CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INHIBIT? OR  
 HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR RESIST? OR  
 SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR BLOCK? OR  
 ELIMINAT?)  
 L26 37644 SEA ABB=ON PLU=ON L22 AND (SAFE? OR L24 OR L25)  
 L27 58621 SEA ABB=ON PLU=ON L19 AND L23  
 L28 3744 SEA ABB=ON PLU=ON L27 AND L26  
 L29 2194 SEA ABB=ON PLU=ON (ANTI(W) STATIC OR ANTISTATIC) (A) FIBER?  
 L30 6875 SEA ABB=ON PLU=ON (ANTI(W) STATIC OR ANTISTATIC) AND L23  
 L31 19 SEA ABB=ON PLU=ON L29 AND L28  
 L32 27990 SEA ABB=ON PLU=ON L22 AND (L24 OR L25)  
 L33 14 SEA ABB=ON PLU=ON L32 AND L27 AND L29  
 L34 93 SEA ABB=ON PLU=ON L32 AND L27 AND L30  
 D QUE STAT L33  
 D QUE STAT L34  
 L35 44374 SEA ABB=ON PLU=ON L10  
 L36 45065 SEA ABB=ON PLU=ON L35 OR ((STAINLESS(A) STEEL?) (A) FIBER?)  
 L37 86 SEA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA ABB=ON PLU=ON L37 AND L34  
 D SCAN  
 D QUE STAT L38  
 L39 3585 SEA ABB=ON PLU=ON L8  
 L40 3586 SEA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR HOMOPOLYMER?) (A)  
 (PARAPHENYLENE(A) TEREPHTHALAMID?)  
 L41 2 SEA ABB=ON PLU=ON L38 AND L40  
 D SCAN  
 L42 3 SEA ABB=ON PLU=ON L34 AND L40  
 L43 5 SEA ABB=ON PLU=ON L38 OR L41 OR L42  
 D SCAN  
 L44 2758 SEA ABB=ON PLU=ON L9  
 L45 3 SEA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA ABB=ON PLU=ON L46 OR L38 OR L41  
 D SCAN  
 D QUE STAT L38  
 D QUE STAT L37  
 D QUE STAT L34  
 L48 3 SEA ABB=ON PLU=ON L34 AND (MODACRYL? (A) FIBER?)  
 D SCAN  
 L49 7 SEA ABB=ON PLU=ON L47 OR L48  
 D QUE STAT L49  
 L50 1 SEA ABB=ON PLU=ON L33 AND L49  
 D SCAN  
 L51 13 SEA ABB=ON PLU=ON L33 NOT L49  
 D QUE STAT L51  
 D QUE STAT L33  
 D QUE STAT L49  
 D QUE STAT L51

FILE 'REGISTRY' ENTERED AT 12:35:18 ON 16 NOV 2004

E POLYBENZIMIDAZOLE/PCT

L52 1952 SEA ABB=ON PLU=ON POLYBENZIMIDAZOLE/PCT

FILE 'HCA' ENTERED AT 12:36:28 ON 16 NOV 2004

L53 1484 SEA ABB=ON PLU=ON L52  
 L54 32199 SEA ABB=ON PLU=ON L53 OR POLYBENZIMIDAZOLE? OR (POLY OR  
 POLYMER?) (A) BENZIMIDAZOLE? OR PBI OR PBO OR (PARA OR P OR META  
 OR M) (W) ARAMID?  
 L55 6 SEA ABB=ON PLU=ON L54 AND L32 AND L30  
 D SCAN  
 L56 1 SEA ABB=ON PLU=ON L55 AND L36  
 D SCAN  
 L57 0 SEA ABB=ON PLU=ON L55 AND MODACRYL?  
 L58 1 SEA ABB=ON PLU=ON L55 AND L49  
 L59 0 SEA ABB=ON PLU=ON L55 AND L51  
 D SCAN L58  
 L60 5 SEA ABB=ON PLU=ON L55 NOT L49  
 L61 4 SEA ABB=ON PLU=ON YARN AND L49  
 L62 3 SEA ABB=ON PLU=ON L49 NOT L61  
 L63 1 SEA ABB=ON PLU=ON YARN AND L51  
 L64 12 SEA ABB=ON PLU=ON L51 NOT L63  
 L65 0 SEA ABB=ON PLU=ON YARN AND L60  
  
 => d que stat l61  
 L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON 24938-64-5/RN  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25035-37-4/RN  
 L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 12597-68-1/RN  
 L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON ACRYLONITRILE/CN  
 L17 27286 SEA FILE=HCA ABB=ON PLU=ON L13  
 L18 413391 SEA FILE=HCA ABB=ON PLU=ON ACRYL?  
 L19 417410 SEA FILE=HCA ABB=ON PLU=ON L17 OR L18 OR ACRYLONITRIL?  
 L22 1565473 SEA FILE=HCA ABB=ON PLU=ON FABRIC? OR TEXTILE? OR CLOTH? OR  
 GARMENT? OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB?  
 OR SPIN? OR SPUN? OR FIBER?  
 L23 1090739 SEA FILE=HCA ABB=ON PLU=ON FIBER? OR FIBR? OR FILAMENT? OR  
 THREAD? OR STRAND? OR RIBBON? OR FILIFORM?  
 L24 65018 SEA FILE=HCA ABB=ON PLU=ON (FLAME? OR FIRE?) (W) (PROOF? OR  
 RETARD? OR RESIST?) OR FIREPROOF? OR FLAMEPROOF?  
 L25 160118 SEA FILE=HCA ABB=ON PLU=ON (COMBUST? OR INCINERAT? OR  
 BURN##### OR FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR  
 CARBONIZAT? OR CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INH  
 IBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR  
 RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR  
 BLOCK? OR ELIMINAT?)  
 L27 58621 SEA FILE=HCA ABB=ON PLU=ON L19 AND L23  
 L30 6875 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W) STATIC OR ANTISTATIC) AND  
 L23  
 L32 27990 SEA FILE=HCA ABB=ON PLU=ON L22 AND (L24 OR L25)  
 L34 93 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L30  
 L35 44374 SEA FILE=HCA ABB=ON PLU=ON L10  
 L36 45065 SEA FILE=HCA ABB=ON PLU=ON L35 OR ((STAINLESS(A) STEEL?) (A) FIB  
 ER?)  
 L37 86 SEA FILE=HCA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA FILE=HCA ABB=ON PLU=ON L37 AND L34  
 L40 3586 SEA FILE=HCA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR  
 HOMOPOLYMER?) (A) (PARAPHENYLENE(A) TEREPHTHALAMID?)  
 L41 2 SEA FILE=HCA ABB=ON PLU=ON L38 AND L40  
 L42 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND L40  
 L44 2758 SEA FILE=HCA ABB=ON PLU=ON L9  
 L45 3 SEA FILE=HCA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA FILE=HCA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA FILE=HCA ABB=ON PLU=ON L46 OR L38 OR L41



L48 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND (MODACRYL?(A) FIBER?)  
 L49 7 SEA FILE=HCA ABB=ON PLU=ON L47 OR L48  
 L61 4 SEA FILE=HCA ABB=ON PLU=ON YARN AND L49

=> d 161 1-4 cbib abs hitind

L61 ANSWER 1 OF 4 HCA COPYRIGHT 2004 ACS on STN

141:244896 **Fabric** with high **fire-resistant**

properties. Chiantese, Gennaro (Q2 Roma S.r.l., Italy). PCT Int. Appl.  
 WO 2004076730 A2 20040910, 27 pp. DESIGNATED STATES: W: AE, AE, AG, AL,  
 AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY,  
 BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK,  
 DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR,  
 HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR,  
 KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW,  
 MX, MX, MZ, MZ, NA, NI; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE,  
 DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN,  
 TD, TG, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG, TR.  
 (English). CODEN: PIXXD2. APPLICATION: WO 2004-IB1239 20040225.  
 PRIORITY: IT 2003-VI37 20030225.

AB Title **fabric** comprises various types of **yarns**  
 consisting of meta-aramidic or para-aramidic **fibers** and  
**fibers** based on pre-oxidized carbon or novoloid, resp. , which are  
 highly **fire-resistant** materials. The **fabric**  
 can be of the multilayer type and can also include the use of cotton, wool  
 or viscose **fibers**, having high comfort properties and good  
 wearability, and/or **textile fibers** with conductivity  
 characteristics, in order to obtain further shielding properties of the  
 non-ionizing waves generated by electromagnetic fields and/or  
**antistatic** and dissipative properties, in general.

IC ICM D03D

CC 40-10 (Textiles and Fibers)

ST **fire resistant fabric** aramid fiber  
 oxidized carbon novoloid

IT Carbon **fibers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (activated, conductive **textile fibers**; production of  
**fabric** with high **fire-resistant** properties)

IT Polyamide **fibers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (aramid; production of **fabric** with high **fire-**  
**resistant** properties)

IT Polyamide **fibers**, uses

Polyester **fibers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (coated with copper sulfide, conductive **textile**  
**fibers**; production of **fabric** with high **fire-**  
**resistant** properties)

IT Phenolic resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (**fiber**; production of **fabric** with high **fire-**  
**resistant** properties)

IT **Textiles**

(**fire-resistant**; production of **fabric** with  
 high **fire-resistant** properties)

IT **Textiles**

(knitted; production of **fabric** with high **fire-**  
**resistant** properties)

- IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(p-phenylenediamine-terephthalic acid; production of **fabric** with high **fire-resistant** properties)
- IT Synthetic polymeric **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(phenolic resins; production of **fabric** with high **fire-resistant** properties)
- IT Carbon **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pre-oxidized; production of **fabric** with high **fire-resistant** properties)
- IT **Acrylic fibers**, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(precursor for carbon **fiber**; production of **fabric** with high **fire-resistant** properties)
- IT **Antistatic materials**  
Cotton **fibers**  
Electromagnetic field  
Textiles  
Wool  
(production of **fabric** with high **fire-resistant** properties)
- IT Rayon, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(production of **fabric** with high **fire-resistant** properties)
- IT Metallic **fibers**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**stainless steel**, conductive **textile fibers**; production of **fabric** with high **fire-resistant** properties)
- IT 7440-44-0, Activated carbon, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(activated, **fibers**; production of **fabric** with high **fire-resistant** properties)
- IT 11115-78-9, Copper sulfide  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coating on polyamide or polyester **fibers**, conductive **textile fibers**; production of **fabric** with high **fire-resistant** properties)
- IT 12597-68-1, Stainless steel, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(conductive **textile fibers**; production of **fabric** with high **fire-resistant** properties)
- IT 25035-37-4, p-Phenylenediamine-terephthalic acid copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**fibers**, assumed monomers; production of **fabric** with high **fire-resistant** properties)
- IT 25014-41-9, Polyacrylonitrile  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**fibers**, precursor for carbon **fiber**; production of **fabric** with high **fire-resistant** properties)
- IT 24938-64-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**fibers**; production of **fabric** with high **fire-resistant** properties)

140:340734 **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom.  
Campbell, Willis D.; Gibson, Richard M.; Johnson, Albert E.; Wallace, Kenneth P. (USA). U.S. Pat. Appl. Publ. US 2004077241 A1 20040422, 7 pp., Cont.-in-part of U.S. Ser. No. 851,888. (English). CODEN: USXXCO.  
APPLICATION: US 2003-607092 20030626. PRIORITY: US 2001-851888 20010509.

AB A **fabric** for use in safety apparel comprises a first set of **yarns** consisting of **modacrylic fibers** and optionally high energy absorptive **fibers** such as aramid **fibers**, and a second set of **yarns** comprising **anti-static fibers** such as **stainless steel fibers**. The **fabric** meets the Federal Test Method Standard 191A, Method 5931 for electrostatic decay, and the Electrostatic Discharge Association Advisory ADV11.2-1995 voltage potential.

IC ICM B32B005-18  
ICS B32B005-24

NCL 442181000; 442221000

CC 40-10 (Textiles and Fibers)

ST **flame resistant** visibility **antistatic fabric** safety apparel

IT **Acrylic fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(aramid, high energy absorptive **fibers**; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT **Antistatic** materials  
(**fibers**; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT **Textiles**  
(**fire-resistant**; **Flame-resistant**, high visibility, **anti-static fabric** and apparel formed therefrom)

IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(p-phenylenediamine-terephthalic acid, high energy absorptive **fibers**; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT Safety devices  
(protective **clothing**; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT **Clothing**  
(protective; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT **Metallic fibers**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**stainless steel, antistatic fibers**; **Flame-resistant, high visibility, anti-static fabric** and apparel formed therefrom)

IT **12597-68-1, Stainless steel**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)

parent /  
same number

- (antistatic fibers; Flame-resistant, high visibility, anti-static fabric and apparel formed therefrom)
- IT 25035-37-4, Poly-p-phenylene terephthalamide  
RL: TEM (Technical or engineered material use); USES (Uses)  
(high energy absorptive fibers, assumed monomers; Flame-resistant, high visibility, anti-static fabric and apparel formed therefrom)
- IT 24938-64-5, Poly-p-phenylene terephthalamide  
RL: TEM (Technical or engineered material use); USES (Uses)  
(high energy absorptive fibers; Flame-resistant, high visibility, anti-static fabric and apparel formed therefrom)
- L61 ANSWER 3 OF 4 HCA COPYRIGHT 2004 ACS on STN  
139:231903 Yarn for manufacture of flame-resistant, antibacterial, fabrics with antistatic properties and the fabrics obtained. Borres, Bruno (ETS Journe & Lefevre S.A R.L., Fr.). Fr. Demande FR 2836932 A1 20030912, 15 pp. (French).  
CODEN: FRXXBL. APPLICATION: FR 2002-2818 20020306.
- AB Yarn for the manufacture of fabrics with the title properties contain  $\geq 30\%$  modacrylic fibers with O index 33, .apprx.60% cotton fibers, and  $\geq 2\%$  polyamide fibers containing Cu<sub>2</sub>S.
- IC ICM D02G003-04  
ICS D02G003-28; D06M011-53; A41D031-00; D04B001-14; H01B001-10; H05F001-00
- CC 40-7 (Textiles and Fibers)
- ST yarn modacrylic fiber cotton fiber polyamide fiber blend; fireproof antibacterial antistatic fabric cuprous sulfide
- IT Acrylic fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Protex M; yarn containing fire-resistant modacrylic fibers, cotton, and cuprous sulfide-containing polyamide fibers for manufacture of fabrics with antistatic properties)
- IT Polyamide fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(copper-sulfide coated, R.Stat/N; yarn containing fire-resistant modacrylic fibers, cotton, and cuprous sulfide-containing polyamide fibers for manufacture of fabrics with antistatic properties)
- IT Cotton fibers  
(yarn containing fire-resistant modacrylic fibers, cotton, and cuprous sulfide-containing polyamide fibers for manufacture of fabrics with antistatic properties)
- IT Polyamide fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(yarn containing fire-resistant modacrylic fibers, cotton, and cuprous sulfide-containing polyamide fibers for manufacture of fabrics with antistatic properties)
- IT Antibacterial agents  
Antistatic materials  
Clothing  
Fire-resistant materials  
Yarns

- (yarn containing **fire-resistant modacrylic fibers**, cotton, and cuprous sulfide-containing polyamide **fibers** for manufacture of **fabrics** with **antistatic** properties for **clothing**)
- IT 22205-45-4, Cuprous sulfide  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (bactericide; yarn containing **fire-resistant modacrylic fibers**, cotton, and cuprous sulfide-containing polyamide **fibers** for manufacture of **fabrics** with **antistatic** properties)
- L61 ANSWER 4 OF 4 HCA COPYRIGHT 2004 ACS on STN
- 91:124814 Metalized **textile** material. Ebneht, Harold (Bayer A.-G., Fed. Rep. Ger.). Ger. Offen. DE 2804031 19790802, 16 pp. (German).  
 CODEN: GWXXBX. APPLICATION: DE 1978-2804031 19780131.
- AB Metalized, permanently **antistatic, flame retardant textiles** were manufactured by treating **modacrylic fibers** with an acidic colloidal Pd solution containing excess Zn ions and an acid or alkali solution and then electroless plating the **fibers** in an alkaline metal salt solution so the thickness of the metal coating was  $\leq 0.2 \mu\text{m}$ . Thus, a **yarn** prepared from 40:60 **acrylonitrile-vinyl chloride** copolymer [9003-00-3] **fibers** was immersed in an acidic colloidal Pd solution containing an excess of Zn ions for 10 s to 2 min. The **fibers** were rinsed with water, treated with a 5% NaOH solution for 0.5-2 min, rinsed with water, and immersed in a solution (pH 8.9) containing NiCl<sub>2</sub> 0.2, NH<sub>4</sub>OH 0.9, and NaH<sub>2</sub>PO<sub>2</sub> 0.2 mol/L. After .apprx.5 min when the Ni coating was .apprx.0.2  $\mu\text{m}$  thick, the **yarn** was removed from the electroless plating bath and rinsed with water. The surface resistance and volume resistance of the **yarn** was  $3 + 10^1 \Omega$  and  $5 + 10^2 \Omega\text{-cm}^2$ , resp.
- IC D06Q001-04; D02G003-00
- CC 39-6 (Textiles)  
 Section cross-reference(s): 42
- ST electroless plating **acrylic fiber**; nickel coating  
**acrylic fiber**; **antistatic** nickel coated  
**acrylic fiber**; **fire resistant**  
 metalized **acrylic fiber**
- IT **Acrylic fibers**, uses and miscellaneous  
 RL: USES (Uses)  
 (nickel-coated, **antistatic fire-resistant**)
- IT **Fireproofing**  
 (of **acrylic fibers**, by electroless coating with nickel)
- IT Electric charge  
 (prevention of, on **acrylic fibers**, by electroless plating with nickel)
- IT Coating materials  
 (electroless, nickel, on **acrylic fibers**, for improved **antistatic** properties and **fire resistance**)
- IT 7440-02-0, uses and miscellaneous  
 RL: USES (Uses)  
 (**acrylic fibers** coated by, **antistatic fire-resistant**)
- IT 9003-00-3 38140-96-4



RL: USES (Uses)  
 (fiber, nickel-coated, antistatic fire-resistant)

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L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON 24938-64-5/RN  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25035-37-4/RN  
 L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 12597-68-1/RN  
 L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON ACRYLONITRILE/CN  
 L17 27286 SEA FILE=HCA ABB=ON PLU=ON L13  
 L18 413391 SEA FILE=HCA ABB=ON PLU=ON ACRYL?  
 L19 417410 SEA FILE=HCA ABB=ON PLU=ON L17 OR L18 OR ACRYLONITRIL?  
 L22 1565473 SEA FILE=HCA ABB=ON PLU=ON FABRIC? OR TEXTILE? OR CLOTH? OR  
 GARMENT? OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB?  
 OR SPIN? OR SPUN? OR FIBER?  
 L23 1090739 SEA FILE=HCA ABB=ON PLU=ON FIBER? OR FIBR? OR FILAMENT? OR  
 THREAD? OR STRAND? OR RIBBON? OR FILIFORM?  
 L24 65018 SEA FILE=HCA ABB=ON PLU=ON (FLAME? OR FIRE?) (W) (PROOF? OR  
 RETARD? OR RESIST?) OR FIREPROOF? OR FLAMEPROOF?  
 L25 160118 SEA FILE=HCA ABB=ON PLU=ON (COMBUST? OR INCINERAT? OR  
 BURN##### OR FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR  
 CARBONIZAT? OR CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INH  
 IBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR  
 RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR  
 BLOCK? OR ELIMINAT?)  
 L27 58621 SEA FILE=HCA ABB=ON PLU=ON L19 AND L23  
 L30 6875 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W)STATIC OR ANTISTATIC) AND  
 L23  
 L32 27990 SEA FILE=HCA ABB=ON PLU=ON L22 AND (L24 OR L25)  
 L34 93 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L30  
 L35 44374 SEA FILE=HCA ABB=ON PLU=ON L10  
 L36 45065 SEA FILE=HCA ABB=ON PLU=ON L35 OR ((STAINLESS(A)STEEL?) (A) FIB  
 ER?)  
 L37 86 SEA FILE=HCA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA FILE=HCA ABB=ON PLU=ON L37 AND L34  
 L40 3586 SEA FILE=HCA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR  
 HOMOPOLYMER?) (A) (PARAPHENYLENE(A)TEREPHTHALAMID?)  
 L41 2 SEA FILE=HCA ABB=ON PLU=ON L38 AND L40  
 L42 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND L40  
 L44 2758 SEA FILE=HCA ABB=ON PLU=ON L9  
 L45 3 SEA FILE=HCA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA FILE=HCA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA FILE=HCA ABB=ON PLU=ON L46 OR L38 OR L41  
 L48 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND (MODACRYL? (A) FIBER?)  
 L49 7 SEA FILE=HCA ABB=ON PLU=ON L47 OR L48  
 L61 4 SEA FILE=HCA ABB=ON PLU=ON YARN AND L49  
 L62 3 SEA FILE=HCA ABB=ON PLU=ON L49 NOT L61

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L62 ANSWER 1 OF 3 HCA COPYRIGHT 2004 ACS on STN

137:126399 **Fireproof antistatic multilayer textile**

with high mechanical strength and resistance to acids and bases.

Chiantese, Gennaro (Trezza, Chiara, Italy; Basso, Maria Cristina; Ferraro,  
 Anella; Bruno, Anna). Ital. IT 1303434 B1 20001106, 15 pp. (Italian).

CODEN: ITXXBY. APPLICATION: IT 1998-NA62 19981109.

AB The **textile** produced using knitting machines comprises carbon



**fibers**, e.g., oxidized poly(**acrylonitrile**) derived carbon **fibers**, aramid **fibers** e.g., p-phenylene terephthalamide, and natural **fibers**, e.g., cotton or wool, and has high elasticity due to the mesh knit. A four-layer **textile** was **fabricated** with a natural **fiber fabric** linked to carbon **fiber** layer, aramid **fiber** layer, and a second natural **fiber fabric**, such that the outer layers are natural **fiber** and the inner layers are carbon **fiber** and aramid layers. The **textiles** are suitable for all uses requiring **fire resistant** materials.

IC ICM D04H  
 CC 40-8 (Textiles and Fibers)  
 ST **textile fireproof** carbon **fiber** aramid natural **fiber** multilayer; **antistatic** flexible **textile** mesh knit carbon **fiber** cotton aramid; terephthalamide aramid **fiber** wool carbon **fiber textile** strength  
 IT Polyamide **fibers**, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (aramid; **fireproof antistatic** carbon **fiber** -aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT **Textiles**  
 (cotton; **fireproof antistatic** carbon **fiber** -aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT **Textiles**  
 (**fire-resistant**, multilayer; **fireproof antistatic** carbon **fiber**-aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT **Fire-resistant** materials  
 Wool  
 (**fireproof antistatic** carbon **fiber** -aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT **Textiles**  
 (knitted, mesh-knit; **fireproof antistatic** carbon **fiber**-aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT Carbon **fibers**, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyacrylonitrile-based, oxidized; **fireproof antistatic** carbon **fiber**-aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)  
 IT 24938-64-5, Poly(p-phenylene terephthalamide) 25035-37-4, 1,4-Benzenediamine-terephthalic acid copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (**fireproof antistatic** carbon **fiber** -aramid-natural **fiber textile** with high mech. strength and resistance to acids and bases)

L62 ANSWER 2 OF 3 HCA COPYRIGHT 2004 ACS on STN

122:316607 **Fire-resistant** resin compositions for electrostatic coating process. Hirai, Shigeo; Nakane, Michio (Toyo Ink Mfg Co, Japan). Jpn. Kokai Tokkyo Koho JP 07053778 A2 19950228 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-206041 19930820.

AB The title compns. with volume intrinsic resistivity (V) 10<sup>-2</sup>-10<sup>4</sup> Ω cm,

which are used as substrates of electrostatic coating process saving **antistatic** pretreatment, contain 100 parts **fire-resistant** thermoplastic resins and 0.2-20 parts elec. conductive **fibers** having V 10-6-10-2  $\Omega$ -cm. Thus, 85 parts a **fire-resistant** ABS resin and 15 parts PBT (polymer) were mixed for 10 min, melt-kneaded at 220°, pelletized, dry-blended with 5.6 parts Lioconductor EMI-SGR-3041H (**stainless steel fiber** master batch), and injection-molded at 220° to give a test piece which was subjected to electrostatic coating of a 2-liquid **acrylic** polyurethane, annealed at 80° for 2 h, and treated at 23° and 50% humidity to show good cross-cut adhesion strength.

- IC ICM C08K007-02
- ICS C08K003-08; C08L101-12
- CC 38-3 (Plastics Fabrication and Uses)
- Section cross-reference(s): 37, 42, 76
- ST **fire resistant** resin electrostatic coating;
- fireproof** thermoplastic resin electrostatic coating; **fiber**
- elec conductor blend resin; **antistatic** pretreatment free
- electrostatic coating; **stainless steel fiber**
- blend thermoplastic
- IT Electric conductors
- (carbon or metallic **fibers**; **fire-resistant**
- thermoplastic resins containing elec. conductors for **antistatic**
- pretreatment-free electrostatic coating)
- IT Carbon **fibers**, uses
- Metallic **fibers**
- RL: MOA (Modifier or additive use); USES (Uses)
- (elec. conductors; **fire-resistant** thermoplastic
- resins containing elec. conductors for **antistatic**
- pretreatment-free electrostatic coating)
- IT Coating process
- Fire-resistant** materials
- (**fire-resistant** thermoplastic resins containing elec.
- conductors for **antistatic** pretreatment-free electrostatic
- coating)
- IT Polyesters, uses
- RL: POF (Polymer in formulation); USES (Uses)
- (**fire-resistant** thermoplastic resins containing elec.
- conductors for **antistatic** pretreatment-free electrostatic
- coating)
- IT 157351-61-6, Lioconductor EMI-SGR 30413
- RL: MOA (Modifier or additive use); USES (Uses)
- (**fibers**, elec. conductors, Lioconductor EMI-SGR-30413H;
- fire-resistant** thermoplastic resins containing elec.
- conductors for **antistatic** pretreatment-free electrostatic
- coating)
- IT 9003-07-0, Polypropylene 9003-56-9, ABS (polymer) 24968-12-5, PBT
- (polymer) 26062-94-2, Butylene glycol-terephthalic acid copolymer
- RL: POF (Polymer in formulation); USES (Uses)
- (**fire-resistant** thermoplastic resins containing elec.
- conductors for **antistatic** pretreatment-free electrostatic
- coating)

L62 ANSWER 3 OF 3 HCA COPYRIGHT 2004 ACS on STN

109:130219 Heat-resistant thermoplastic resin compositions. Hashimoto, Kenji; Takahashi, Shuji; Kondo, Masanori; Ogura, Kiyoshi (Sumitomo Naugatuck Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62288655 A2 19871215 Showa, 24 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-132189 19860606.

- AB Compns. with good discoloration resistance and useful in preparing elec., electronic, automobile parts, etc. comprise resins containing imide groups (prepared from maleimides or glutarimides 1-70, aromatic vinyls, unsatd. nitriles, unsatd. carboxylic acids or esters, and/or olefins 30-99, and copolymerizable monomers 0-30 parts), thermoplastic resins or elastomers, coloring materials, organic stabilizers, lubricants, and additives (e.g., fillers, **fireproofing** agents, blowing agents, and/or **antistatic** agents). Thus, a mixture of 16:31:53 **acrylonitrile**-N-phenylmaleimide-styrene copolymer 70, 11:60:29 ABS polymer 30, C. I. Pigment Red 101 (I) 0.5, and additives 0.9 part was injection molded at 290° to give a sheet having color difference 0.56 NMB with and without staying 5 min in the machine (CIE 1976), vs. 40.25 for a sheet containing C.I. Pigment red 178 instead of I.
- IC ICM C08L101-00  
ICS C08K005-00; C08L079-00
- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 39
- ST heat resistance colored polymaleimide; **acrylonitrile** phenylmaleimide styrene copolymer coloring; iron oxide colorant polymaleimide; ABS polymer blend polymaleimide
- IT Carbon **fibers**, uses and miscellaneous  
Glass **fibers**, uses and miscellaneous  
RL: USES (Uses)  
(reinforcers, blends of polyimides and thermoplastic resins containing, heat-resistant)
- IT Rubber, synthetic  
RL: USES (Uses)  
(EPDM, **acrylonitrile**- and styrene-grafted, blends with polyimides and coloring materials, heat-resistant)
- IT Metallic **fibers**  
RL: USES (Uses)  
(**stainless steel**, reinforcers, blends of polyimides and thermoplastic resins containing, heat-resistant)
- IT 100-42-5D, Styrene, polymer with **acrylonitrile** and EPDM rubber  
107-13-1D, 2-Propenenitrile, polymer with styrene and EPDM rubber  
9002-84-0 9003-18-3, **Acrylonitrile**-butadiene copolymer  
9003-54-7, **Acrylonitrile**-styrene copolymer 9003-56-9, ABS polymer 9010-77-9, **Acrylic** acid-ethylene copolymer  
9011-52-3, Hexamethylenediamine-sebacic acid copolymer 9016-75-5, Poly(thiophenylene) 24936-68-3, uses and miscellaneous 24938-67-8, Poly(2,6-dimethylphenylene-1,4-ether) 24968-12-5, C7000 (Polyester) 25034-86-0, Methyl methacrylate-styrene copolymer 25035-81-8, Methacrylic acid-methyl methacrylate-styrene copolymer 25036-53-7 25037-45-0, Bisphenol A-carbonic acid copolymer 25038-71-5, Neoflon ETFE EP-520 25067-11-2 25067-34-9, Ethylene-vinyl alcohol copolymer 25103-74-6, Ethylene-methyl **acrylate** copolymer 25213-88-1, **Acrylonitrile**-methyl methacrylate-styrene copolymer 25747-74-4, **Acrylonitrile**- $\alpha$ -methylstyrene copolymer 26062-94-2, Butylene glycol-terephthalic acid copolymer 26099-71-8, Ekonol E101 26590-50-1, U Polymer U-100 33961-16-9, Methacrylonitrile-styrene copolymer 50327-22-5 50327-77-0 51109-15-0, Butyl **acrylate** -ethylene-glycidyl methacrylate copolymer 63322-78-1, Ethylene-methacrylic acid-zinc methacrylate copolymer 75835-87-9, **Acrylonitrile**-p-methylstyrene copolymer 87806-04-0, Iupital F20-01 106177-14-4, Ethylene-maleic anhydride-propylene graft copolymer 106255-03-2, Iupiac AH60 106343-08-2, Ethylene-maleic anhydride graft copolymer 106974-54-3, Butadiene-styrene graft copolymer 108554-70-7, **Acrylonitrile**-butyl **acrylate**-styrene graft copolymer 114749-27-8

RL: USES (Uses)

(blends with polyimides and coloring materials, heat-resistant)

IT 26316-43-8, N-Phenylmaleimide-styrene copolymer 30523-73-0,  
Ethylene-N-phenylmaleimide copolymer 31621-07-5, **Acrylonitrile**  
-N-phenylmaleimide-styrene copolymer 37604-30-1, **Acrylonitrile**  
-N-cyclohexylmaleimide-styrene copolymer 38807-39-5,  
N-o-Chlorophenylmaleimide-methyl methacrylate copolymer 81598-70-1,  
Methyl methacrylate-N-phenylmaleimide-styrene copolymer 84741-24-2,  
**Acrylonitrile**- $\alpha$ -methylstyrene-N-phenylmaleimide copolymer  
88077-74-1, **Acrylonitrile**-butadiene-N-phenylmaleimide-styrene  
copolymer 106126-74-3, **Acrylonitrile**-p-methylstyrene-N-  
phenylmaleimide copolymer 113151-28-3, Methacrylonitrile-N-  
phenylmaleimide-styrene copolymer 113151-29-4, Methacrylonitrile- $\alpha$ -  
methylstyrene-N-phenylmaleimide copolymer 114730-84-6 114730-85-7  
114730-86-8

RL: USES (Uses)

(blends with thermoplastic resins and coloring materials,  
heat-resistant)

IT 7440-44-0

RL: USES (Uses)

(carbon **fibers**, reinforcers, blends of polyimides and  
thermoplastic resins containing, heat-resistant)

IT 12597-68-1, Stainless steel, uses and miscellaneous

RL: USES (Uses)

(**fibers**, blends of polyimides and thermoplastic resins  
containing, heat-resistant)

IT 74-85-1

RL: USES (Uses)

(rubber, EPDM, **acrylonitrile**- and styrene-grafted, blends  
with polyimides and coloring materials, heat-resistant)

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L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON 24938-64-5/RN  
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25035-37-4/RN  
L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 12597-68-1/RN  
L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON ACRYLONITRILE/CN  
L17 27286 SEA FILE=HCA ABB=ON PLU=ON L13  
L18 413391 SEA FILE=HCA ABB=ON PLU=ON ACRYL?  
L19 417410 SEA FILE=HCA ABB=ON PLU=ON L17 OR L18 OR ACRYLONITRIL?  
L22 1565473 SEA FILE=HCA ABB=ON PLU=ON FABRIC? OR TEXTILE? OR CLOTH? OR  
GARMENT? OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB?  
OR SPIN? OR SPUN? OR FIBER?  
L23 1090739 SEA FILE=HCA ABB=ON PLU=ON FIBER? OR FIBR? OR FILAMENT? OR  
THREAD? OR STRAND? OR RIBBON? OR FILIFORM?  
L24 65018 SEA FILE=HCA ABB=ON PLU=ON (FLAME? OR FIRE?) (W) (PROOF? OR  
RETARD? OR RESIST?) OR FIREPROOF? OR FLAMEPROOF?  
L25 160118 SEA FILE=HCA ABB=ON PLU=ON (COMBUST? OR INCINERAT? OR  
BURN##### OR FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR  
CARBONIZAT? OR CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INH  
IBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR  
RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR  
BLOCK? OR ELIMINAT?)  
L27 58621 SEA FILE=HCA ABB=ON PLU=ON L19 AND L23  
L29 2194 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W)STATIC OR ANTISTATIC) (A) FI  
BER?  
L30 6875 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W)STATIC OR ANTISTATIC) AND  
L23  
L32 27990 SEA FILE=HCA ABB=ON PLU=ON L22 AND (L24 OR L25)

L33 14 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L29  
 L34 93 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L30  
 L35 44374 SEA FILE=HCA ABB=ON PLU=ON L10  
 L36 45065 SEA FILE=HCA ABB=ON PLU=ON L35 OR ((STAINLESS(A)STEEL?) (A) FIB  
 ER?)  
 L37 86 SEA FILE=HCA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA FILE=HCA ABB=ON PLU=ON L37 AND L34  
 L40 3586 SEA FILE=HCA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR  
 HOMOPOLYMER?) (A) (PARAPHENYLENE(A)TEREPHTHALAMID?)  
 L41 2 SEA FILE=HCA ABB=ON PLU=ON L38 AND L40  
 L42 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND L40  
 L44 2758 SEA FILE=HCA ABB=ON PLU=ON L9  
 L45 3 SEA FILE=HCA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA FILE=HCA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA FILE=HCA ABB=ON PLU=ON L46 OR L38 OR L41  
 L48 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND (MODACRYL? (A) FIBER?)  
 L49 7 SEA FILE=HCA ABB=ON PLU=ON L47 OR L48  
 L51 13 SEA FILE=HCA ABB=ON PLU=ON L33 NOT L49  
 L63 1 SEA FILE=HCA ABB=ON PLU=ON YARN AND L51

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L63 ANSWER 1 OF 1 HCA COPYRIGHT 2004 ACS on STN

126:278875 Antistatic **woven** products and **yarns** for their  
 manufacture. Kawachi, Hiroyuki; Yanagi, Yasuo; Hosokawa, Hiroshi;  
 Matsunaka, Mitsuhiro (Mitsubishi Rayon Co, Japan). Jpn. Kokai Tokkyo Koho  
 JP 09067728 A2 19970311 Heisei, 14 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1995-224061 19950831.

AB The **woven** products contain blend **yarns** with components  
 having elec. conductivity (C) of >10<sup>-6</sup> S/cm and components with C 10<sup>-9</sup>-10<sup>-6</sup>  
 S/cm

at blend ratio of 1:1-50. **Fabrics** containing 0.1-10% the blend  
**yarns** above have good antistatic performance and wearing comfort.  
 Thus, an **acrylonitrile**-Me **acrylate**-sodium  
 methallylsulfonate copolymer (I) containing conductive particles (as core  
 component) and I alone (as sheath component) were co-spun to  
 give bicomponent **fibers** having different core/sheath ratio and  
 elec. conductivity, which were **woven** to give **fabric** with good  
 antistatic property.

IC ICM D02G003-04

ICS D01F001-09; D01F006-38; D01F006-54; D01F006-86; D01F008-04

CC 40-2 (Textiles and Fibers)

ST **acrylic fiber antistatic** bicomponent; blend  
**fiber fabric antistatic yarn**; core sheath  
 bicomponent **fiber antistatic**

IT **Acrylic fibers**, uses

**Acrylic fibers**, uses

Synthetic polymeric **fibers**, uses

Synthetic polymeric **fibers**, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES  
 (Uses)

(**acrylonitrile**-methacrylic acid-sodium methallylsulfonate,  
 bicomponent **fibers**; **antistatic woven**  
 products and **yarns** for manufacture)

IT **Acrylic fibers**, uses

**Acrylic fibers**, uses

Synthetic polymeric **fibers**, uses

Synthetic polymeric **fibers**, uses



RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(acrylonitrile-polyethylene glycol lauryl ether  
acrylate-vinyl acetate, bicomponent **fibers**;  
antistatic woven products and **yarns** for  
manufacture)

IT Synthetic polymeric **fibers**, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(ethylene oxide-epichlorohydrin-diethylenetriamine-propylene  
**oxide, block**, bicomponent **fibers**;  
antistatic woven products and **yarns** for  
manufacture)

IT Synthetic polymeric **fibers**, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(ethylene oxide-hexamethylene diisocyanate-propylene oxide; antistatic  
woven products and **yarns** for manufacture)

IT 149581-61-3P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)

(antistatic woven products and **yarns** for manufacture)

IT 9064-20-4P, Acrylonitrile-lauryloxypolyethylene glycol

acrylate-vinyl acetate copolymer 26658-88-8P,

Acrylonitrile-methyl acrylate-sodium methallylsulfonate

copolymer 131091-74-2P, Ethylene oxide-HMDI-propylene **oxide**

**block** copolymer 188853-75-0P, Ethylene oxide-epichlorohydrin-

diethylenetriamine-propylene **oxide block** copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)

(bicomponent **fibers**; antistatic woven  
products and **yarns** for manufacture)

IT 181314-92-1, ET-500W

RL: MOA (Modifier or additive use); USES (Uses)

(elec. conductors; antistatic woven products and  
**yarns** for manufacture)

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L8	1	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	24938-64-5/RN
L9	1	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	25035-37-4/RN
L10	1	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	12597-68-1/RN
L13	1	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	ACRYLONITRILE/CN
L17	27286	SEA	FILE=HCA	ABB=ON	PLU=ON	L13
L18	413391	SEA	FILE=HCA	ABB=ON	PLU=ON	ACRYL?
L19	417410	SEA	FILE=HCA	ABB=ON	PLU=ON	L17 OR L18 OR ACRYLONITRIL?
L22	1565473	SEA	FILE=HCA	ABB=ON	PLU=ON	FABRIC? OR TEXTILE? OR CLOTH? OR GARMENT? OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB? OR SPIN? OR SPUN? OR FIBER?
L23	1090739	SEA	FILE=HCA	ABB=ON	PLU=ON	FIBER? OR FIBR? OR FILAMENT? OR THREAD? OR STRAND? OR RIBBON? OR FILIFORM?
L24	65018	SEA	FILE=HCA	ABB=ON	PLU=ON	(FLAME? OR FIRE?) (W) (PROOF? OR RETARD? OR RESIST?) OR FIREPROOF? OR FLAMEPROOF?
L25	160118	SEA	FILE=HCA	ABB=ON	PLU=ON	(COMBUST? OR INCINERAT? OR BURN##### OR FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR CARBONIZAT? OR CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INH IBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR BLOCK? OR ELIMINAT?)



L27 58621 SEA FILE=HCA ABB=ON PLU=ON L19 AND L23  
 L29 2194 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W) STATIC OR ANTISTATIC) (A) FI  
 BER?  
 L30 6875 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W) STATIC OR ANTISTATIC) AND  
 L23  
 L32 27990 SEA FILE=HCA ABB=ON PLU=ON L22 AND (L24 OR L25)  
 L33 14 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L29  
 L34 93 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L30  
 L35 44374 SEA FILE=HCA ABB=ON PLU=ON L10  
 L36 45065 SEA FILE=HCA ABB=ON PLU=ON L35 OR ((STAINLESS(A) STEEL?) (A) FIB  
 ER?)  
 L37 86 SEA FILE=HCA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA FILE=HCA ABB=ON PLU=ON L37 AND L34  
 L40 3586 SEA FILE=HCA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR  
 HOMOPOLYMER?) (A) (PARAPHENYLENE(A) TEREPHTHALAMID?)  
 L41 2 SEA FILE=HCA ABB=ON PLU=ON L38 AND L40  
 L42 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND L40  
 L44 2758 SEA FILE=HCA ABB=ON PLU=ON L9  
 L45 3 SEA FILE=HCA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA FILE=HCA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA FILE=HCA ABB=ON PLU=ON L46 OR L38 OR L41  
 L48 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND (MODACRYL? (A) FIBER?)  
 L49 7 SEA FILE=HCA ABB=ON PLU=ON L47 OR L48  
 L51 13 SEA FILE=HCA ABB=ON PLU=ON L33 NOT L49  
 L63 1 SEA FILE=HCA ABB=ON PLU=ON YARN AND L51  
 L64 12 SEA FILE=HCA ABB=ON PLU=ON L51 NOT L63

=> d 164 1-12 cbib abs hitind

L64 ANSWER 1 OF 12 HCA COPYRIGHT 2004 ACS on STN  
 139:324648 Manufacture of fuzziness-free carbon **fibers** from  
 easy-to-split **acrylic** precursor **fibers**. Okamura,  
 Masayuki; Tokuhiko, Atsushi (Toray Industries, Inc., Japan). Jpn. Kokai  
 Tokkyo Koho JP 2003301336 A2 20031024, 5 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 2002-103444 20020405.

AB The process includes unwinding of (silicone-oiled) **acrylic**  
**fiber threads** from their packages while catching  
 slip-dropped **threads** by **cloths** extended below the  
 packages in order to inhibit possible ballooning.. Thus,  
**acrylonitrile**-itaconic acid copolymer **fiber** package was  
 successfully unwound as above by using an antistatic polyester taffeta as  
 the said **thread** catcher and then carbonized at 1800° to  
 give carbon **fibers** with less fuzziness.

IC ICM D01F009-22

CC 40-2 (Textiles and Fibers)

ST carbon **fiber acrylic** package ballooning prevention;  
 taffeta **thread** catcher **acrylonitrile** carbon precursor  
 unwinding

IT **Acrylic fibers**, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); PROC (Process)

(acrylonitrile-itaconic acid; carbon **fiber** manufacture  
 by unwinding of **acrylic fiber** packages with  
 antistatic **cloths** extended below the packages)

IT **Textiles**

(antistatic, **fiber**-catching **cloths**;  
 carbon **fiber** manufacture by unwinding of **acrylic**  
**fiber** packages with antistatic **cloths** extended below

- the packages)
- IT Polyester **fibers**, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (**fabrics**, taffeta, catching **cloths**; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT Nonwoven **fabrics**  
 (**fiber**-catching **cloths**; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT **Textiles**  
 (knitted, **fiber**-catching **cloths**; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT Carbon **fibers**, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyacrylonitrile-based; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT Polysiloxanes, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (polyoxyalkylene-, block, oiling agents; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT Polyoxyalkylenes, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (polysiloxane-, block, oiling agents; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT 25765-21-3, **Acrylonitrile**-itaconic acid copolymer  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
 (**fiber**; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)
- IT 66453-40-5 156309-06-7, Dimethylsilanediol-ethylene **oxide block** copolymer  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (oiling agents; carbon **fiber** manufacture by unwinding of **acrylic fiber** packages with antistatic **cloths** extended below the packages)

L64 ANSWER 2 OF 12 HCA COPYRIGHT 2004 ACS on STN

125:87464 Bifunctional alkylphosphine oxides and their preparation. Sugya, Tadashi; Watanabe, Tsutomu; Shimura, Seiji (Nippon Chemical Ind, Japan). Jpn. Kokai Tokkyo Koho JP 08113582 A2 19960507 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-248024 19941013.

AB  $H(CH_2CMe_2)_nCH_2CMe_2P(O)(CH_2CHR_3CO_2R_2)_2$  [I;  $n = 0-1$ ;  $R_2 = H$ ,  $C1-8$  (hydroxy)alkyl;  $R_3 = H$ , Me], useful as monomers for flame-retardant and **antistatic fibers** and plastics, are prepared by treatment of  $H(CH_2CMe_2)_nCH_2CMe_2PH_2$  (II) with  $CH_2:CR_3CO_2R_2$  in the presence of catalysts followed by addition of oxidizing agents to the reaction mixture  $CH_2:CHCO_2H$  (108.0 g) was gradually added dropwise to a mixture of 109.7 g II ( $n = 1$ ) and concentrate HCl at  $\leq 30^\circ$  and the reaction mixture was concentrated Aqueous  $H_2O_2$  solution was added dropwise to the concentrated matter dissolved in  $H_2O$  at  $60-70^\circ$  and the reaction mixture was further kept at  $90^\circ$  for 1 h to give 202-1 g I ( $R_2 = R_3 = H$ ,  $n = 1$ ).

- IC ICM C07F009-53  
ICS C07F009-50
- CC 35-2 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 29
- ST bifunctional alkylphosphine oxide prepn; carboxyethylphosphine oxide prepn  
antistatic polymer; **fireproofing** polymer carboxyethylphosphine  
oxide prepn
- IT Antistatic agents  
**Fireproofing** agents  
(preparation of bifunctional alkylphosphine oxides for antistatic and  
**fireproofing** polymers)
- IT 99538-31-5P 178955-10-7P 178955-11-8P 178955-12-9P 178955-13-0P  
178955-14-1P 178955-15-2P 178955-16-3P  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); TEM  
(Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation of bifunctional alkylphosphine oxides for antistatic and  
**fireproofing** polymers)
- IT 79-10-7, **Acrylic** acid, reactions 79-41-4, Methacrylic acid,  
reactions 140-88-5, Ethyl **acrylate** 818-61-1, 2-Hydroxyethyl  
**acrylate** 2501-94-2, tert-Butylphosphine 168685-08-3,  
(1,1,3-3-Tetramethylbutyl)phosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of bifunctional alkylphosphine oxides for antistatic and  
**fireproofing** polymers)
- L64 ANSWER 3 OF 12 HCA COPYRIGHT 2004 ACS on STN  
125:35675 Modification of **acrylic fibers** for specific end  
uses. Bajaj, P.; Paliwal, D. K.; Gupta, A. K. (Dep. of Textile, Indian  
Institute of Technology, New Delhi, 110 016, India). Indian Journal of  
Fibre & Textile Research, 21(2), 143-154 (English) 1996. CODEN: IJFRET.  
ISSN: 0971-0426. Publisher: Publications & Information Directorate, CSIR.
- AB A review, with 105 refs., is given on production and modification of  
**acrylic fibers** for improved performance in  
**textile** products. Water-absorbent **acrylic**  
**fibers**, **antistatic** and soil-release finishes, conductive  
**acrylic fibers**, ion-exchangers and antimicrobial  
compsns., **flame resistant acrylic**  
**fibers**, hollow **fibers**, and **acrylic**  
**fibers** as precursors for carbon **fibers** are discussed.
- CC 40-0 (Textiles and Fibers)
- ST review **acrylic fiber textile** modification  
finish
- IT **Acrylic fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(advances in modification and finishing of **acrylic**  
**fibers** and **textiles**)
- L64 ANSWER 4 OF 12 HCA COPYRIGHT 2004 ACS on STN  
114:187533 Antistatic **fireproofed acrylic fibers**  
. Hiraoka, Saburo; Hama, Shinji; Chiga, Mitsuo (Mitsubishi Rayon Co.,  
Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02289174 A2 19901129 Heisei, 4  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-13254 19890124.
- AB **Acrylic fibers** are **fireproofed** and then  
provided with a SnO<sub>2</sub>-containing elec. conductive layer on the surface. Thus,  
Vonnell tows were impregnated with hydroxylamine, heated at 270°,  
then impregnated with aqueous SnCl<sub>4</sub>.5H<sub>2</sub>O, heated with saturated steam of  
98°, and dried. The tows generated no flame or smoke when fired  
with a Bunsen burner for 5 s and showed elec. resistance 2 + 109  
Ω/square, fineness 3.3 denier, tenacity 1.6 g/denier, and elongation

- 10.3%.
- IC ICM D06M011-46
- ICI D06M101-26
- CC 40-9 (Textiles and Fibers)
- ST **acrylic fiber antistatic** stannic oxide;  
**fireproofing acrylic fiber** hydroxylamine
- IT **Acrylic fibers**, uses and miscellaneous  
RL: USES (Uses)  
(antistatic and **fireproofed**)
- IT **Fireproofing** agents  
(hydroxylamine, for **acrylic fibers**)
- IT **Fireproofing**  
(of **acrylic fibers**, with hydroxylamine)
- IT Antistatic agents  
(stannic oxide, for **fireproofed acrylic fibers**)
- IT 18282-10-5, Stannic oxide  
RL: USES (Uses)  
(antistatic agent, for **fireproofed acrylic fibers**)
- IT 7803-49-8, Hydroxylamine, uses and miscellaneous  
RL: USES (Uses)  
(**fireproofing** agent, for **acrylic fibers**)
- L64 ANSWER 5 OF 12 HCA COPYRIGHT 2004 ACS on STN
- 110:97123 Antistatic and antislip agent for **textiles**. Berger, Jerzy; Blicharczyk, Wladyslaw; Szkola, Benedykt (Nadodrzanskie Zaklady Przemyslu Organicznego "Organika-Rokita", Pol.). Pol. PL 140720 B1 19870530, 10 pp. Abstracted and indexed from the unexamined application. (Polish). CODEN: POXXA7. APPLICATION: PL 1984-246406 19840225.
- AB The title agents contain water 45-75, phosphate ester ethanolamine salts 17.5-24, block polyethylene-polypropylene glycol (I) (mol.weight 1600-2000) 3-7.5, polyethoxylated diethylene glycol (II) or ethylene glycol (mol. weight 900-2000) 3.5-12, and ethanolamine salts of saturated and unsatd. fatty acids 1-5 parts. A composition was prepared by mixing water 75, II (mol.weight 2000) 3.5, I (mol. weight 2000) 3, 1.3:1 oleic acid-stearic acid ethanolamine salt 1, and ethoxylated C8-9 alkylphenyl phosphate triethanolamine salt 17.5 parts. Polyester, **acrylic**, and polyamide **fibers** impregnated with a solution of 2 g/dm<sup>3</sup> this composition and dried in air have surface resistivity 1500 MΩ; vs. 1.4 + 10<sup>7</sup> for untreated **fibers**.
- IC ICM C09K003-16
- ICS D06M015-10
- CC 40-9 (Textiles and Fibers)
- ST antistatic finish **textile**; antislip finish **textile**;  
**acrylic fiber antistatic** finish; polyester  
**fiber antistatic** finish; polyamide **fiber**  
**antistatic** finish; polyoxyalkylene antistatic finish  
**textile**; phosphate ester salt antistatic finish
- IT **Acrylic fibers**, uses and miscellaneous  
Polyamide **fibers**, uses and miscellaneous  
Polyester **fibers**, uses and miscellaneous  
RL: USES (Uses)  
(antistatic and antislip agents for)
- IT Antistatic agents  
(polyoxyalkylene derivs. and fatty acid ethanolamine salts, for **textiles**)
- IT Fatty acids, compounds

RL: USES (Uses)

(salts, with triethanolamine, in antistatic finishes for **textiles**)

IT 2717-15-9, Oleic acid triethanolamine salt 4568-28-9, Stearic acid triethanolamine salt 25322-68-3 25322-68-3D, alkylphenyl ethers, phosphates, triethanolamine salts 106392-12-5, Ethylene oxide-propylene **oxide block** copolymer

RL: USES (Uses)

(in antistatic and antislip finishes for **textiles**)

L64 ANSWER 6 OF 12 HCA COPYRIGHT 2004 ACS on STN

82:157664 **Acrylonitrile fibers** having antielectrostatic nature. Sakurai, Toshio; Mimura, Koji (Mitsubishi Rayon Co., Ltd.). Jpn. Tokkyo Koho JP 49038930 B4 19741022 Showa, 5 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 1970-35210 19700424.

AB **Acrylic fibers** with an inherent antistatic nature are prepared by graft polymerizing **acrylic** monomers on an ethylene oxide-propylene **oxide block** polymer (I), followed by conventional melt **spinning**. Thus, to an aqueous I solution containing K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> and H<sub>2</sub>SO<sub>4</sub> was added a mixture of **acrylonitrile** and methyl **acrylate** and polymerization was carried out to give a graft polymer [55012-21-0] containing 42.8% I. The graft polymer was blended with a **acrylonitrile-methyl acrylate-sodium methallylsulfonate** copolymer [26658-88-8] and the mixture was melt-**spun** to give 3 denier **fibers** with superior antistatic properties.

IC D01F; D08G

CC 39-2 (Textiles)

ST antistatic **acrylic** polyoxyethylene graft

IT **Acrylic fibers**

RL: USES (Uses)

(manufacture of antistatic, containing **acrylic**-grafted polyalkylene oxides)

IT Electric charge

(prevention of, polyalkylene oxide graft **acrylic fibers** for)

IT 26658-88-8

RL: USES (Uses)

(**fibers**, containing polyalkylene oxide-**acrylic** graft polymers, antistatic)

IT 55012-21-0

RL: USES (Uses)

(graft, **fiber**, **antistatic**)

L64 ANSWER 7 OF 12 HCA COPYRIGHT 2004 ACS on STN

81:137432 Surface treatment of rubber or synthetic resins. Jo, Yoshio; Wada, Yoshio; Aonuma, Kokichi; Kobayashi, Takeo; Inokuchi, Kyoji (Nippon Zeon Co., Ltd.). Ger. Offen. DE 2349775 19740411, 72 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1973-2349775 19731003.

AB The adhesion, dyeability or printability, and **fire resistance** of rubbers and polymers are improved by surface treatment with an alkyl hypohalite and an active H-containing functional compound. Thus, treatment of vulcanized SBR with a 20% THF solution of tert-butyl hypochlorite (I) [507-40-4] and then with a 20% THF solution of ethylene glycol (II) [107-21-1] 2-3 min and bonding to steel with an isocyanate adhesive 1 hr at 80.deg. and 100-200 g/cm<sup>2</sup> gives 180.deg. peel strength (JIS K-6301) 12.1 kg/cm, compared with 2.8, 3.5, and 2.7, resp. for treatment with I alone, II alone, and no treatment.

IC C08D

CC 38-15 (Elastomers, Including Natural Rubber)



- IT Polyamide **fibers**  
Polyester **fibers**  
RL: USES (Uses)  
(**antistatic** agents for, rubber-butyl hypochlorite-functional compound reaction products as)
- IT Paper  
**Textiles**  
**Acrylic fibers**  
RL: USES (Uses)  
(**fire retardants** for, rubber-butyl hypochlorite-functional compound reaction products as)
- IT Waterproofing  
(of **textiles** and paper, by rubber-butyl hypochlorite-functional compds. reaction products)
- IT **Fireproofing**  
(of **textiles**, by rubber-butyl hypochlorite-functional compound reaction products)
- IT Antistatic agents  
(rubber-butyl hypochlorite-functional compound reaction products, for **textiles**)
- IT 1,3-Butadiene, polymer with ethenylbenzene and ethenylpyridine, reaction products with tert-butyl hypochlorite and functional compds.  
Benzene, ethenyl-, polymer with 1,3-butadiene and ethenylpyridine, reaction products with tert-butyl hypochlorite and functional compds.  
RL: USES (Uses)  
(**flame retardants**, for **textiles**)
- IT 9019-71-0D, Pyridine, ethenyl-, polymer with 1,3-butadiene and ethenylbenzene, reaction products with tert-butyl hypochlorite and functional compds. 10035-10-6D, Hydrobromic acid, reaction products with tert-butyl hypochlorite and functional compds.  
RL: USES (Uses)  
(**flame retardants**, for **textiles**)
- L64 ANSWER 8 OF 12 HCA COPYRIGHT 2004 ACS on STN  
77:165988 Antistatic **acrylic fibers**. Yamaguchi, Hiroyuki; Tamura, Chikara; Komure, Shigeyuki (Asahi Chemical Industry Co., Ltd.). Jpn. Tokkyo Koho JP 47008776 B4 19720314 Showa, 3 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 1968-88703 19720314.
- AB Antistatic **acrylonitrile copolymer fibers** were prepared containing polyether antistatic agents, such as decaethylene glycol monododecyl ether [6540-99-4], diethylene glycol mono(octylphenyl ether) [27176-92-7], or ethylene oxide-propylene **oxide block** copolymer [9003-11-6]. Thus, 92.0:5.0:3.0 **acrylonitrile**-vinyl acetate-**acrylamide** copolymer [26836-59-9] dissolved in DMF was mixed with 2.5% polyethylene glycol mono(dodecylphenyl ether) [9014-92-0] and spun to give **fibers** with electric resistance 7 .tim. 1010  $\Omega$ , which became 5 .tim. 1011  $\Omega$  upon washing 10 times, compared with 4 .tim. 1014  $\Omega$  for a **fiber** containing no I.
- IC D01F; C08F  
CC 39-2 (Textiles)  
ST **acrylonitrile copolymer fiber**; antistatic agent polyether; decaethylene glycol dodecyl ether; diethylene glycol octylphenyl ether; ethylene **oxide block** copolymer; propylene **oxide block** copolymer; polyethylene glycol dodecylphenyl ether
- IT **Acrylic fibers**  
RL: USES (Uses)  
(**antistatic** agents for, polyethylene glycol monoethers as)



- IT Antistatic agents  
(polyethylene glycol monoethers, for **acrylic fibers**)
- IT 9002-92-0 9003-11-6 9014-92-0 27176-92-7  
RL: USES (Uses)  
(antistatic agents, for **acrylic fibers**)
- IT 26836-59-9  
RL: USES (Uses)  
(**fiber, antistatic** agents for, polyethylene glycol monoethers as)
- L64 ANSWER 9 OF 12 HCA COPYRIGHT 2004 ACS on STN  
77:21424 Antistatic polyamide **fibers**. Togo, Masayuki; Kojima, Shinji; Ito, Nobuya (Toray Industries, Inc.). Jpn. Tokkyo Koho JP 46026440 B4 19710731 Showa, 4 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 1968-69910 19680928.
- AB A nylon 6 polyblend with  $\epsilon$ -caprolactam-ethylene **oxide block** copolymer (I) [26569-63-1] was **spun** into a **fiber** and the **fiber** was treated with a polyethylene glycol **acrylate** or methacrylate to give the **fiber antistatic** properties. Thus, a I containing copolymer poly(ethylene oxide) (II) units (mol. weight 4000) was blended with nylon 6 to give a polyblend containing 2.0 weight % copolymer II units. The polyblend was **spun** and **woven** into a taffeta **cloth**. The **cloth** was treated 60 min with an aqueous solution containing p-benzoquinone 0.06, polyethylene glycol monoethyl ether **acrylate** [35111-38-7] (mol. weight of polyethylene glycol unit 500) 4.5, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 0.1, and a Na alkylbenzenesulfonate 0.1% at 98.deg.. The charged static voltage of the **cloth** in a rotary static tester before and after washing was 50 and 70 V, resp., compared with 250 and 200 V, resp., for a similar polyblend **cloth** without **acrylate** treatment.
- IC D06M; D01D; D01F  
CC 39-2 (Textiles)  
ST antistatic nylon; polyethylene glycol nylon copolymer; **acrylate** polyethylene glycol; methacrylate polyethylene glycol  
IT Polyamide **fibers**  
RL: USES (Uses)  
(caprolactam-ethylene **oxide block** polymer-modified, antistatic treatment of, by polyethylene glycol ether **acrylates**)
- IT Polyoxyalkylenes  
RL: USES (Uses)  
(ether **acrylates**, antistatic treatment by, of polyamide **fibers**)
- IT Antistatic agents  
(polyethylene glycol ether **acrylates**, for polyamide **fibers**)
- IT 35111-38-7  
RL: USES (Uses)  
(antistatic treatment by, of polyamide **fibers**)
- IT 26569-63-1  
RL: USES (Uses)  
(polyamide **fibers** modified by, antistatic treatment of, by polyethylene glycol ether **acrylates**)

L64 ANSWER 10 OF 12 HCA COPYRIGHT 2004 ACS on STN  
76:47259 **Fire-retardant acrylic fibers**  
. Iwata, Hiroshi; Hiraoka, Saburo; Fukuta, Soichi; Okawa, Yoshikatsu; Nagai, Akifum; Kimoto, Hiroshi (Marubishi Oil Chemical Co., Ltd.;

Mitsubishi Rayon Co., Ltd.). Jpn. Tokkyo Koho JP 46008958 B4 19710306 Showa, 6 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 19670929.

AB Organic P acid-urea condensates, e.g., carbamic ethyl(hexyl)phosphinic anhydride [C6H13(Et)P(:O)O2CNH2] [33955-34-9] are internal and external **fire retardants** as well as antistatic agents for **acrylic fibers**; the **fibers** contain <20% of the condensate. Other condensates used were, e.g., carbamic O,P-dimethylphosphonic anhydride [33955-35-0], carbamic O,O-dimethylphosphoric anhydride [33979-39-4], carbamic O-methyl-O-(3-bromopropyl)phosphoric anhydride [33955-36-1], and carbamic ethyl[2-(diethylphosphinyloxy)ethyl]phosphinic anhydride [33976-75-9].

IC D06M; D01F; C08K; C08F

CC 39 (Textiles)

ST **acrylic fiber fire retardant**; urea phosphorus acid condensate; antistatic **acrylic fiber**

IT **Acrylic fibers**  
RL: USES (Uses)  
(antistatic **fireproofing** agents for, organic phosphorus acid-urea condensate as)

IT **Fireproofing**  
(of **acrylic fibers**, with phosphorus acid-urea condensates, elec. charge prevention in relation to)

IT Antistatic agents  
(phosphorus acid-urea condensate as **fireproofing**, for **acrylic fibers**)

IT 33955-34-9 33955-35-0 33955-36-1 33976-75-9 33979-39-4  
RL: USES (Uses)  
(antistatic **fireproofing** agent, for **acrylic fibers**)

L64 ANSWER 11 OF 12 HCA COPYRIGHT 2004 ACS on STN

76:34903 Polymeric antistatic agents. Fujimoto, Takehiko; Suwata, Ataru; Nakagawa, Masao (Sanyo Chemical Industries Ltd.). Jpn. Tokkyo Koho JP 46005055 B4 19710208 Showa, 7 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 19670626.

AB Copolymers of maleic anhydride with methacrylate or **acrylate** esters of polyethylene glycol or ethylene oxide-propylene **oxide block** copolymer were amidated and optionally quaternized to give washfast internal antistatic agents for polyamide **fibers**, poly(vinyl chloride) [9002-86-2], polyacrylonitrile [25014-41-9] film, polystyrene [9003-53-6], polyethylene [9002-88-4], and **acrylonitrile**-butadiene-styrene copolymer (ABS) [9003-56-9]. The polyethylene glycol esters used were R1(CH2CH2O)nCOCR:CH2 (R and R1 given): Me, EtO; Me C9H19C6H4O; H, Cl2H25O; Me, hexamethylenimino; Me, Cl10H7O; Me, MeO; Me, morpholino. The amines used for the amidation were dodecylamine, octadecylamine, Et2N(CH2)3NH2, and Me2N(CH2)3NH2, and the quaternizing agents were ClCH2CONH2, ClCH2CO2Na, Me2SO4, and propane sultone. The workability and mech. properties of the polymers (Bz2O2 catalyst) were not affected by the antistatic agents, and the polymers (100 parts) contained 1.5-2 parts of the antistatic agents.

IC C08KFG; C09K

CC 36 (Plastics Manufacture and Processing)

ST maleic anhydride copolymer antistatic agent; polyethylene glycol ester copolymer; PVC antistatic agent; nylon **fiber antistatic** agent; ABS resin antistatic agent; thermoplastic antistatic agent

IT Polyamide **fibers**  
RL: USES (Uses)  
(antistatic agents for, maleic anhydride-polyalkylene glycol ether-**acrylate** as)

- IT Antistatic agents  
(maleic anhydride-polyalkylene glycol ether-**acrylates**, for vinyl polymers)
- IT 9002-86-2 9002-88-4 9003-53-6 9003-56-9 25014-41-9  
RL: USES (Uses)  
(antistatic agents for, maleic anhydride-polyalkylene glycol ether-**acrylate** as)
- IT 108-31-6D, 2,5-Furandione, polymers with polyalkylene glycol ether **acrylates** 26403-58-7D, Poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxy-, alkyl ethers, polymers with maleic anhydride  
RL: USES (Uses)  
(antistatic agents, for vinyl polymer)
- L64 ANSWER 12 OF 12 HCA COPYRIGHT 2004 ACS on STN
- 75:7358 Impregnation of **fibrous** material with hydrophobic substances in microcapsules. Ida, Syunya; Hosokawa, Kenjiro (Kanegafuchi Spinning Co., Ltd.). Ger. Offen. DE 2041899 19710318, 96 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1970-2041899 19700824.
- AB The microcapsules were prepared from a core component containing a hydrophobic substance, e.g. dyes or compds. rendering **fibers antistatic**, H<sub>2</sub>O and (or) oil repellent, **fireproof**, uv resistant, soft, elastic, or thermally resistant and a wall component, e.g. a polyurethane, polyorganosiloxane, polyolefin, or epoxy resin of  $\leq 100$  g/cm<sup>2</sup> breaking strength. Thus, a Cl<sub>2</sub>C:CCl<sub>2</sub> solution containing OCN(CH<sub>2</sub>)<sub>6</sub>NCO and Unflame BP (**fireproofing** agent) was slowly added to bisphenol A in 1% aqueous NaOH, stirred at 400 rpm, to give a dispersion of microcapsules of 200-400 m $\mu$  particle size, 10 g/cm<sup>2</sup> breaking resistance, and 1:3000 part wallcore ratio. Poly(ethylene terephthalate) (I) **fabric** was coated with 70% (based on I) microcapsules, pressed at 1 kg/cm<sup>2</sup> between rubber rollers, dried at 70°, and heated 30 sec at 160° to give material of excellent **fire-resistance**.
- IC D06M
- CC 39 (Textiles)
- ST **fiber** impregnation polyurethane microcapsules; polyorganosiloxane microcapsules **fiber** impregnation; polyolefin microcapsules **fiber** impregnation; polyepoxide microcapsules **fiber** impregnation; polyamide microcapsules **fiber** impregnation
- IT Oils  
RL: USES (Uses)  
(-proofing, of **textiles**, by microencapsulated agents)
- IT **Textiles**  
**Fiber, acrylic**, uses and miscellaneous  
**Fiber, polyester**, uses and miscellaneous  
Nylon, uses and miscellaneous  
RL: USES (Uses)  
(finishing of, with microencapsulated agents)
- IT Capsules  
(micro-, in **textile** finishing)
- IT **Fireproofing**  
Waterproofing  
(of **textiles**, by microencapsulated agents)
- IT Electric charge  
(prevention of, on **textiles**, by microencapsulated agents)

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L8 1 SEA FILE=REGISTRY ABB=ON PLU=ON 24938-64-5/RN  
 L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON 25035-37-4/RN  
 L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON 12597-68-1/RN  
 L13 1 SEA FILE=REGISTRY ABB=ON PLU=ON ACRYLONITRILE/CN  
 L17 27286 SEA FILE=HCA ABB=ON PLU=ON L13  
 L18 413391 SEA FILE=HCA ABB=ON PLU=ON ACRYL?  
 L19 417410 SEA FILE=HCA ABB=ON PLU=ON L17 OR L18 OR ACRYLONITRIL?  
 L22 1565473 SEA FILE=HCA ABB=ON PLU=ON FABRIC? OR TEXTILE? OR CLOTH? OR  
 GARMENT? OR NAPER OR DRAPER OR WEAV? OR WOVE? OR WEFT? OR WEB?  
 OR SPIN? OR SPUN? OR FIBER?  
 L23 1090739 SEA FILE=HCA ABB=ON PLU=ON FIBER? OR FIBR? OR FILAMENT? OR  
 THREAD? OR STRAND? OR RIBBON? OR FILIFORM?  
 L24 65018 SEA FILE=HCA ABB=ON PLU=ON (FLAME? OR FIRE?) (W) (PROOF? OR  
 RETARD? OR RESIST?) OR FIREPROOF? OR FLAMEPROOF?  
 L25 160118 SEA FILE=HCA ABB=ON PLU=ON (COMBUST? OR INCINERAT? OR  
 BURN##### OR FLAM? OR FIRE? OR IGNIT##### OR SCORCH? OR  
 CARBONIZAT? OR CARBONISAT? OR OXID# OR OXIDAT? OR BLAZ?) (A) (INH  
 IBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR REDN# OR  
 RESIST? OR SUPPRESS? OR RETARD? OR PROHIBIT? OR PREVENT? OR  
 BLOCK? OR ELIMINAT?)  
 L27 58621 SEA FILE=HCA ABB=ON PLU=ON L19 AND L23  
 L30 6875 SEA FILE=HCA ABB=ON PLU=ON (ANTI(W)STATIC OR ANTISTATIC) AND  
 L23  
 L32 27990 SEA FILE=HCA ABB=ON PLU=ON L22 AND (L24 OR L25)  
 L34 93 SEA FILE=HCA ABB=ON PLU=ON L32 AND L27 AND L30  
 L35 44374 SEA FILE=HCA ABB=ON PLU=ON L10  
 L36 45065 SEA FILE=HCA ABB=ON PLU=ON L35 OR ((STAINLESS(A)STEEL?) (A) FIB  
 ER?)  
 L37 86 SEA FILE=HCA ABB=ON PLU=ON L36 AND L30  
 L38 4 SEA FILE=HCA ABB=ON PLU=ON L37 AND L34  
 L40 3586 SEA FILE=HCA ABB=ON PLU=ON L8 OR (POLY OR POLYMER? OR  
 HOMOPOLYMER?) (A) (PARAPHENYLENE(A)TEREPHTHALAMID?)  
 L41 2 SEA FILE=HCA ABB=ON PLU=ON L38 AND L40  
 L42 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND L40  
 L44 2758 SEA FILE=HCA ABB=ON PLU=ON L9  
 L45 3 SEA FILE=HCA ABB=ON PLU=ON L44 AND L34  
 L46 3 SEA FILE=HCA ABB=ON PLU=ON L45 AND L42  
 L47 5 SEA FILE=HCA ABB=ON PLU=ON L46 OR L38 OR L41  
 L48 3 SEA FILE=HCA ABB=ON PLU=ON L34 AND (MODACRYL? (A) FIBER?)  
 L49 7 SEA FILE=HCA ABB=ON PLU=ON L47 OR L48  
 L52 1952 SEA FILE=REGISTRY ABB=ON PLU=ON POLYBENZIMIDAZOLE/PCT  
 L53 1484 SEA FILE=HCA ABB=ON PLU=ON L52  
 L54 32199 SEA FILE=HCA ABB=ON PLU=ON L53 OR POLYBENZIMIDAZOLE? OR  
 (POLY OR POLYMER?) (A) BENZIMIDAZOLE? OR PBI OR PBO OR (PARA OR  
 P OR META OR M) (W) ARAMID?  
 L55 6 SEA FILE=HCA ABB=ON PLU=ON L54 AND L32 AND L30  
 L60 5 SEA FILE=HCA ABB=ON PLU=ON L55 NOT L49

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L60 ANSWER 1 OF 5 HCA COPYRIGHT 2004 ACS on STN  
 140:272299 Heat-, flame- and electric arc-resistant **fabric** for use  
 as single or outer layer of protective **garments**. Bader, Yves;  
 Capt, Andre; Dotsch, Thomas (E. I. Du Pont De Nemours and Company, USA).  
 PCT Int. Appl. WO 2004023909 A2 20040325, 36 pp. DESIGNATED STATES: W:  
 AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR,  
 CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID,  
 IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-IB3701 20030903. PRIORITY: DE 2002-20214118 20020912.

- AB The **fabric** of the invention comprises at least two sep. single plies which are assembled together at predefined positions so as to build pockets. The **fabric** of the invention is made of materials independently chosen from the group consisting of aramid **fibers** and **filaments**, polybenzimidazol **fibers** and **filaments**, polyamidimide **fibers** and **filaments**, poly(p-phephenylene benzobisaxazole) **fibers** and **filaments**, phenol-formaldehyde **fibers** and **filaments**, melamine **fibers** and **filaments**, natural **fibers** and **filaments**, synthetic **fibers** and **filaments**, artificial **fibers** and **filaments**, glass **fibers** and **filaments**, carbon **fibers** and **filaments**, metal **fibers** and **filaments**, and composites thereof. Due to its peculiar structure, the **fabric** according to the present invention can have a sp. weight which is considerably lower than that of known **fabrics** having comparable mech. and thermal properties.
- IC ICM A41D031-00  
ICS D03D015-12; D03D011-02
- CC 40-10 (Textiles and Fibers)
- ST heat flame elec arc resistant **fabric** protective **garment**
- IT Synthetic polymeric **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(aminoplasts; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(aramid, Kevlar, Nomex; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Carbon **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(core, bicomponent **fibers** with polyamide **fiber** sheath; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Aminoplasts  
**Polybenzimidazoles**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**fiber**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT **Antistatic** materials  
Heat-resistant materials  
(**fibers**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Aminoplasts  
Phenolic resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**fibers**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT **Textiles**  
(**fire-resistant**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Synthetic polymeric **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)



- (formaldehyde-phenol; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT **Fibrous materials**  
(heat-resistant; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyamide **fibers**, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(isophthalic acid-m-phenylenediamine, **fibers**, assumed monomers; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyamide **fibers**, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(p-phenylenediamine-terephthalic acid; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyimide **fibers**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyamide-; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Synthetic polymeric **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polybenzimidazoles; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polybenzoxazoles  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polybenzobisoxazoles, **fiber**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Synthetic polymeric **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polybenzobisoxazoles; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyimide-; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT **Clothing**  
**Filaments**  
Nonwoven **fabrics**  
(production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Glass **fibers**, uses  
Metallic **fibers**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Safety devices  
(protective **clothing**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT **Clothing**  
(protective; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT Polyamide **fibers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(sheath, bicomponent **fibers** with carbon **fiber** core; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)
- IT 25035-37-4, Poly p-phenylene terephthalamide  
RL: PRP (Properties); TEM (Technical or engineered material use); USES



(Uses)

(**fibers**, assumed monomers; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

IT 90960-37-5

RL: TEM (Technical or engineered material use); USES (Uses)

(**fibers**, assumed monomers; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

IT 24938-64-5, Poly p-phenylene terephthalamide

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**fibers**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

IT 9003-08-1, Formaldehyde-melamine polymer 9003-35-4, Formaldehyde-phenol polymer 60871-72-9 674288-72-3, Nomex N 307 674288-75-6, Nomex N 305 674289-01-1, Nomex T 430 674289-08-8, Nomex E 502

RL: TEM (Technical or engineered material use); USES (Uses)

(**fibers**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

IT 25035-33-0, Poly m-phenylene isophthalamide

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(stable **fibers**, assumed monomers; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

IT 24938-60-1, Poly m-phenylene isophthalamide

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(staple **fibers**; production of heat-, flame- and elec. arc-resistant **fabric** for protective **garments**)

L60 ANSWER 2 OF 5 HCA COPYRIGHT 2004 ACS on STN

140:43489 Molten metal-resistant protective **fabrics** comprising 10-40% **meta-aramid fibers**, 30-50% wool

**fibers** and ≥20% **flame-resistant** viscose

**fibers**. Bader, Yves; Ghorashi, Hamid M.; Laverty, Genevieve M.

(Switz.). U.S. Pat. Appl. Publ. US 2004001978 A1 20040101, 5 pp.

(English). CODEN: USXXCO. APPLICATION: US 2002-187557 20020701.

AB The protective **fabrics** (A1) comprise 10-40% **meta-aramid fibers**, 30-50% wool **fibers**, and

≥20% **flame-retardant** viscose **fibers**,

or the protective **fabrics** comprise A1 **fabrics** showing

basis weight 200-450 g/m<sup>2</sup>, or the protective **fabrics** comprise A1

**fabrics** containing ≤5% **antistatic fibers**,

or the protective **fabrics** comprise above A1 **fabrics**

having **meta-aramid fibers** comprising

poly(m-phenyleneisophthalamide) staple **fibers** having average

**fiber** length ≥5 cm. A blend comprising 40% dyed wool

**fibers**, 40% dyed Cl-free **flame-retardant**

viscose **fibers** (Lenzing FR), and 20% undyed poly(m-

phenyleneisophthalamide) **fibers** with cut length 5 cm was ring

**spun** and made into a **woven** twill with basis weight 282 g/m<sup>2</sup>

and exhibiting tensile strength 842 and 649 N, resp., in the warp and

filling directions, tear strength 32 and 36 N, resp., in the warp and

filling directions, and abrasion resistance 30,000 cycles and showing

shrinkage 9.3 and 6.1%, resp., in the warp and filling directions on

washing the **fabric** for 5 cycles. The **fabric** passed

the test for molten Al and cryolite protection using the test method of

ASTM 955 and EN 531:1995 (Clause 6.6) and EN 373:1993, and passed the test

for molten iron protection using the test method of EN 531:1995 (Clause

6.6) and EN 373:1993.

IC ICM B27N009-00  
ICS D03D015-00; D04B001-14

NCL 428920000; 442197000; 442301000; 442310000; 442415000; 428921000;  
428902000

CC 40-2 (Textiles and Fibers)

ST wool rayon aramid **fiber** blend **fabric** molten metal  
resistant; protective **fabric** wool rayon aramid blend molten  
metal resistant; **clothing** protective wool rayon aramid blend  
molten metal resistant

IT Rayon, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP  
(Physical process); TEM (Technical or engineered material use); PROC  
(Process); USES (Uses)  
(Lenzing FR, **flame-retardant**, blends with wool and  
aramid **fibers**; molten metal-resistant protective  
**fabrics** comprising **meta-aramid**  
**fibers**, wool **fibers** and **flame-**  
**resistant viscose fibers**)

IT **Fibers**  
RL: MOA (Modifier or additive use); USES (Uses)  
(**antistatic**; molten metal-resistant protective  
**fabrics** comprising **meta-aramid**  
**fibers**, wool **fibers** and **flame-**  
**resistant viscose fibers**)

IT Polyamide **fibers**, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP  
(Physical process); TEM (Technical or engineered material use); PROC  
(Process); USES (Uses)  
(aramid, blends with rayon and wool; molten metal-resistant protective  
**fabrics** comprising **meta-aramid**  
**fibers**, wool **fibers** and **flame-**  
**resistant viscose fibers**)

IT Wool  
(blends with rayon and aramid **fibers**; molten metal-resistant  
protective **fabrics** comprising **meta-aramid**  
**fibers**, wool **fibers** and **flame-**  
**resistant viscose fibers**)

IT Polyamide **fibers**, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP  
(Physical process); TEM (Technical or engineered material use); PROC  
(Process); USES (Uses)  
(isophthalic acid-phenylenediamine, blends with rayon and wool; molten  
metal-resistant protective **fabrics** comprising **meta-**  
**aramid fibers**, wool **fibers** and  
**flame-resistant viscose fibers**)

IT **Fire-resistant materials**  
**Textiles**  
(molten metal-resistant protective **fabrics** comprising  
**meta-aramid fibers**, wool **fibers**  
and **flame-resistant viscose fibers**)

IT Metals, miscellaneous  
RL: MSC (Miscellaneous)  
(molten metal-resistant protective **fabrics** comprising  
**meta-aramid fibers**, wool **fibers**  
and **flame-resistant viscose fibers**)

IT Safety devices  
(protective **clothing**; molten metal-resistant protective  
**fabrics** comprising **meta-aramid**  
**fibers**, wool **fibers** and **flame-**

- resistant viscose fibers)**
- IT **Clothing**  
 (protective; molten metal-resistant protective **fabrics** comprising **meta-aramid fibers**, wool **fibers** and **flame-resistant viscose fibers**)
- IT 25035-33-0, Poly(m-phenyleneisophthalamide)  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 ("assumed monomers", **fiber**, blends with rayon and wool; molten metal-resistant protective **fabrics** comprising **meta-aramid fibers**, wool **fibers** and **flame-resistant viscose fibers**)
- IT 24938-60-1, Poly(m-phenyleneisophthalamide)  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (**fiber**, blends with rayon and wool; molten metal-resistant protective **fabrics** comprising **meta-aramid fibers**, wool **fibers** and **flame-resistant viscose fibers**)
- IT 16919-27-0 16923-95-8, Zirpro  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (**flame retardant**; molten metal-resistant protective **fabrics** comprising **meta-aramid fibers**, wool **fibers** and **flame-resistant viscose fibers**)
- IT 7429-90-5, Aluminum, miscellaneous 15096-52-3, Cryolite  
 RL: MSC (Miscellaneous)  
 (molten metal-resistant protective **fabrics** comprising **meta-aramid fibers**, wool **fibers** and **flame-resistant viscose fibers**)

L60 ANSWER 3 OF 5 HCA COPYRIGHT 2004 ACS on STN

133:336516 **Fire-resistant textile** material.

Hainsworth, Thomas; Walker, Derek (A W Hainsworth & Sons Ltd, UK). PCT Int. Appl. WO 2000066823 A1 20001109, 16 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-GB1449 20000427. PRIORITY: GB 1999-9850 19990428.

- AB The **fire resistant textile** material comprises a **woven** faced or warp knitted **fabric** composed of **meta-aramid fiber** and/or polyamideimide **fiber**, wherein the **fabric** including a **woven** mesh of low-shrinkage **fibers** selected from **para-aramid**, poly(p-phenylene terephthalamide) and their mixts. Thus, a **textile** material was **woven** using a self-stitched double construction with a blend of 93% **meta-aramid**, 5% **para-aramid** and 2% **antistatic fiber** (Nomex Delta C) face and a 100% **para-aramid** plain weave back, showing good **fire resistance**.
- IC ICM D03D015-12

ICS D04B021-16; A41D031-00  
 CC 40-9 (Textiles and Fibers)  
 ST aramid **fiber textile fire resistance**  
 IT Synthetic **fibers**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (aluminum oxide-silicon carbide; **fire-resistant textile material**)  
 IT Synthetic **fibers**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (aluminum oxide; **fire-resistant textile material**)  
 IT Polyamide **fibers, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (aramid; **fire-resistant textile material**)  
 IT Synthetic polymeric **fibers, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (butylphenol-formaldehyde-phenol; **fire-resistant textile material**)  
 IT Synthetic polymeric **fibers, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (diaminobenzidine-isophthalic acid; **fire-resistant textile material**)  
 IT Phenolic resins, uses  
 Phenolic resins, uses  
**Polybenzimidazoles**  
**Polybenzimidazoles**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (**fiber; fire-resistant textile material**)  
 IT Glass **fibers, uses**  
 Polyimide **fibers**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (**fire-resistant textile material**)  
 IT **Textiles**  
 (**fire-resistant; fire-resistant textile material**)  
 IT **Textiles**  
 (knitted; **fire-resistant textile material**)  
 IT Synthetic polymeric **fibers, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (phenolic resins; **fire-resistant textile material**)  
 IT Polyimide **fibers**  
 Polyimide **fibers**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (polyamide-; **fire-resistant textile material**)  
 IT Synthetic polymeric **fibers, uses**  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or

engineered material use); PROC (Process); USES (Uses)  
 (polybenzimidazoles; fire-resistant  
 textile material)

IT Polyketones  
 Polyketones  
 Polyketones

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (polyether-, fiber; fire-resistant  
 textile material)

IT Synthetic polymeric **fibers**, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (polyether-polyketones; fire-resistant  
 textile material)

IT Polyamide **fibers**, uses  
 Polyamide **fibers**, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (polyimide-, fire-resistant textile  
 material)

IT Polyethers, uses  
 Polyethers, uses  
 Polyethers, uses

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (polyketone-, fiber; fire-resistant  
 textile material)

IT Synthetic **fibers**

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (silicon carbide; fire-resistant textile  
 material)

IT 24938-64-5, Poly(p-phenylene terephthalamide) 25035-37-4,  
 Poly(p-phenylene terephthalamide)

RL: PEP (Physical, engineering or chemical process); TEM (Technical or  
 engineered material use); PROC (Process); USES (Uses)  
 (fiber; fire-resistant textile  
 material)

L60 ANSWER 4 OF 5 HCA. COPYRIGHT 2004 ACS on STN

130:297419 **Flame-retardant antistatic** polyester

resin compositions. Nakaura, Misuzu; Nakano, Kimihiko (Kaneka  
 Corporation, Japan). Eur. Pat. Appl. EP 908490 A1 19990414, 15 pp.  
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL,  
 SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW.  
 APPLICATION: EP 1998-118841 19981006. PRIORITY: JP 1997-289099 19971006;  
 JP 1998-44602 19980209.

AB The title compns. useful for elec. and electronic parts contain  $\geq 1$   
 thermoplastic polyester (100 parts), 1-35 parts  $\geq 1$  Br-containing  
**flame retardant**, 0.1-5 parts  $\geq 1$  Sb compound, 3-12  
 parts  $\geq 1$  conductive carbon black, 0.05-30 parts  $\geq 1$   
 low-mol.-weight polyester, 0.1-5 parts  $\geq 1$  metal salt of an ionic  
 hydrocarbon copolymer, and optionally a reinforcing filler, a crystallizing  
 accelerator or a polyfunctional compound reactive with OH groups and/or  
 carboxyl groups. Thus, a test piece contained PET polyester 100, Saytex  
 8010 10, Sanka Antimon C 1.5, Ketjen Black EC600JD 4.5, poly(butylene  
 terephthalate) 2-ethylhexyl ester 6, Himilan 1707 3, glass **fibers**  
 40, ethylene glycol-polyethylene glycol bisphenol A ether-terephthalic



acid copolymer 20, Na p-tert-butylbenzoate 0.2, Bisoxazoline 1,3-PBO 0.1, and Irganox 1010 0.5 part and had **flame resistance** UL-94 V-0.

- IC ICM C08K013-02  
ICS C08L067-02
- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 76
- ST **antistatic fire resistant** polyester; glass  
**fiber** reinforced polyester; electronic part **fiber**  
reinforced polyester
- IT Mica-group minerals, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(A 41S; **flame-retardant antistatic**  
polyester resin compns.)
- IT Graphitized carbon black  
RL: MOA (Modifier or additive use); USES (Uses)  
(Ketjen Black EC 600JD; **flame-retardant**  
**antistatic** polyester resin compns.)
- IT Glass **fibers**, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)  
(T-195H; **flame-retardant antistatic**  
polyester resin compns.)
- IT Crystallization  
(agents; **flame-retardant antistatic**  
polyester resin compns.)
- IT Carboxylic acids, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
engineered material use); USES (Uses)  
(aromatic polybasic, polyesters; **flame-retardant**  
**antistatic** polyester resin compns.)
- IT Phenoxy resins  
RL: MOA (Modifier or additive use); USES (Uses)  
(brominated, **fireproofing** agents; **flame-**  
**retardant antistatic** polyester resin compns.)
- IT Carboxylic acids, properties  
Carboxylic acids, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
engineered material use); USES (Uses)  
(dicarboxylic, aliphatic, polyesters; **flame-retardant**  
**antistatic** polyester resin compns.)
- IT Polyesters, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)  
(**fiber-reinforced-; flame-retardant**  
**antistatic** polyester resin compns.)
- IT Antioxidants  
**Antistatic** agents  
Electric apparatus  
Fillers  
**Fireproofing** agents  
(**flame-retardant antistatic** polyester  
resin compns.)
- IT Ionomers  
Polycarbodiimides  
RL: MOA (Modifier or additive use); USES (Uses)  
(**flame-retardant antistatic** polyester  
resin compns.)
- IT Polyesters, properties

Polyesters, properties

Polymer blends

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**flame-retardant antistatic** polyester resin compns.)

IT Reinforced plastics

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(glass **fiber**-reinforced; **flame-retardant antistatic** polyester resin compns.)

IT 34052-90-9

RL: MOA (Modifier or additive use); USES (Uses)

(1,3-**PBO**; **flame-retardant antistatic** polyester resin compns.)

IT 25608-26-8

RL: MOA (Modifier or additive use); USES (Uses)

(Himilan 1707, Himilan 1605; **flame-retardant antistatic** polyester resin compns.)

IT 1309-64-4, Antimony trioxide, uses

RL: MOA (Modifier or additive use); USES (Uses)

(Sanka Anchimonzol C; **flame-retardant antistatic** polyester resin compns.)

IT 15432-85-6, Sodium antimonate

RL: MOA (Modifier or additive use); USES (Uses)

(Sun Epoch NA 1070L; **flame-retardant antistatic** polyester resin compns.)

IT 6683-19-8, Irganox 1010

RL: MOA (Modifier or additive use); USES (Uses)

(antioxidants; **flame-retardant antistatic** polyester resin compns.)

IT 17264-53-8, Sodium p-tert-butylbenzoate

RL: MOA (Modifier or additive use); USES (Uses)

(crystallization accelerators, Nonsoul TBAN; **flame-retardant antistatic** polyester resin compns.)

IT 9003-53-6D, Polystyrene, brominated 86168-32-3, Pyro-chek 68PB

223420-61-9, Pheno Tohto YPB 43MK

RL: MOA (Modifier or additive use); USES (Uses)

(**fireproofing** agents; **flame-retardant antistatic** polyester resin compns.)

IT 25068-38-6, Epikote 828 84852-53-9, Saytex 8010 159654-97-4, Stabaxol

P 177190-10-2, Poly(butylene terephthalate) 2-ethylhexyl ester, SRU

207691-87-0, Poly(butylene terephthalate) 2-ethylhexyl ester

RL: MOA (Modifier or additive use); USES (Uses)

(**flame-retardant antistatic** polyester resin compns.)

IT 24968-12-5 25038-59-9, PET polyester, properties 26062-94-2,

1,4-Butanediol-terephthalic acid copolymer

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(**flame-retardant antistatic** polyester resin compns.)

L60 ANSWER 5 OF 5 HCA COPYRIGHT 2004 ACS on STN

128:244798 **Flame-retardant, antistatic** polyester

compositions with good mech. strength and heat resistance, suitable for electric and electronic device components.. Nakaura, Misuzu; Nakano,

Kimihiko; Hirobe, Kazushi (Kaneka Corporation, Japan). PCT Int. Appl. WO

9815596 A1 19980416, 27 pp. DESIGNATED STATES: W: CN, US; RW: AT, BE,

CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese).  
 CODEN: PIXXD2. APPLICATION: WO 1997-JP3541 19971002. PRIORITY: JP  
 1996-267094 19961008.

- AB The title compns. comprise (A) 100 parts thermoplastic polyester, (B) 1-35 parts bromine-based **flame retardant**, (C) 0.1-5 parts antimony compound, and (D) 3-12 parts conductive carbon black, the weight ratio of Br to Sb being 5.5:1 to 35.0:1; they may also contain (E) a reinforcing filler, (F) a crystallization accelerator, and (G) a polyfunctional compound A composition from PET 100, Pyrochek 68PB 18, Sb2O3 2, Ketjenblack EC600JD 7.7, glass **fibers** 40, PET oligomer-bisphenol A ethoxylate copolymer 20, Na p-tert-butylbenzoate 0.2, ethylene-methacrylic acid copolymer partial Na salt 3.5, Bisoxazoline 1,3-**PBO** 0.5, and Adeka Stab AO-60 stabilizer 0.5 part gave an injection-molding with **fire-resistance** rating V-1 (1/16") and V-0 (1/32"), surface resistance 104  $\Omega$ /square, tensile strength 1100 kg/cm<sup>2</sup>, and heat-distortion temperature 208°.
- IC ICM C08L067-02  
 ICS C08L025-18; C08L063-00; C08L071-02; C08K013-04; C08K013-04;  
 C08K005-02; C08K003-22; C08K003-04; C08K007-14
- CC 37-6 (Plastics Manufacture and Processing)
- ST fire heat resistant polyester elec part; brominated polystyrene **fire retardant**; antimony **fire retardant**; elec conductive carbon black polyester; glass **fiber** polyester compn; crystn accelerator polyester compn
- IT **Antistatic** agents  
 Crystal nucleating agents  
**Fireproofing** agents  
 (**flame-retardant, antistatic** polyester compns. with good mech. strength and heat resistance, suitable for elec. and electronic device components.)
- IT Graphitized carbon black  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (**flame-retardant, antistatic** polyester compns. with good mech. strength and heat resistance, suitable for elec. and electronic device components.)
- IT Ionomers  
 Polyesters, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (**flame-retardant, antistatic** polyester compns. with good mech. strength and heat resistance, suitable for elec. and electronic device components.)
- IT 79293-17-7P, Ethylene glycol-polyethylene glycol bisphenol A ether-terephthalic acid copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (**flame-retardant, antistatic** polyester compns. with good mech. strength and heat resistance, suitable for elec. and electronic device components.)
- IT 1309-64-4, Antimony trioxide, uses 15432-85-6, Sun Epoch NA 1070L 17264-53-8, Sodium p-tert-butylbenzoate 34052-90-9 84852-53-9, Saytex 8010  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (**flame-retardant, antistatic** polyester compns. with good mech. strength and heat resistance, suitable for elec. and electronic device components.)
- IT 24968-12-5, Poly(tetramethylene terephthalate) 25038-59-9, PET polymer, properties 25068-38-6, Epikote 828 25608-26-8, Himilan 1707

26062-94-2, Poly(tetramethylene terephthalate) 86168-32-3, Pyrochek 68PB  
159654-97-4, Stabaxol P

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
engineered material use); USES (Uses)

(**flame-retardant, antistatic** polyester  
compns. with good mech. strength and heat resistance, suitable for  
elec. and electronic device components.)

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? show files

File 67:World Textiles 1968-2004/Nov  
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? ds

Set	Items	Description
S1	158958	FIBER? OR FIBR? OR FILAMENT? OR THREAD? OR STRAND? OR RIBB- ON? OR FILIFORM? OR YARN?
S2	209473	FABRIC? OR TEXTILE? OR CLOTH? OR GARMENT? OR YARN? OR (DRY OR RAG) (W) GOOD? OR NAPER? OR DRAPER? OR WEAV? OR WOVE? OR W- OOF? OR WEFT? OR WEB? OR SPIN? OR SPUN?
S3	7312	(FLAME? OR FIRE?) (W) (PROOF? OR RETARD? OR RESIST?) OR FIRE- PROOF? OR FLAMEPROOF?
S4	250	MODACRYL? (N) (FIBER? OR FIBR?)
S5	218	POLYBENZIMIDAZOLE? OR (POLY OR POLYMER?) (N) BENZIMIDAZOLE?
S6	183	S5 AND S1
S7	157	STEEL(N) (FIBER? OR FIBR?)
S8	3	S7 AND S6
S9	77	S6 AND S3
S10	273	(ANTISTATIC OR ANTI (W) STATIC) (N) (FIBER? OR FIBR?)
S11	0	S10 AND S9
S12	1	S10 AND S7
S13	95	S4 AND S1 AND S3
S14	0	S13 AND S10
S15	0	S13 AND S7
S16	575	S5 OR PBI OR PBO OR (PARA OR P OR META OR M) (N) ARAMID?
S17	148	S16 AND S1 AND S3
S18	0	S17 AND S10
S19	0	S17 AND S7
S20	143	S16 AND S2 AND S3
S21	0	S20 AND S10
S22	2	S16 AND S4
S23	0	HIGH (N) ENERGY (N) ABSORPTIVE (N) (FIBER? OR FIBR?)
S24	0	ENERGY (2N) ABSORPTIVE (2N) (FIBER? OR FIBR?)
S25	0	HIGH (2N) ABSORPTIVE (2N) (FIBER? OR FIBR?)
S26	0	S4 AND S10
S27	2	*deleted* MODACRYL? AND S10
S28	0	?ACRYL? (N) (FIBER? OR FIBR?)
S29	2341	ACRYL? (N) (FIBER? OR FIBR?)
S30	19	S29 AND S10
S31	2	S30 AND YARN
S32	19	S30 AND S1
S33	2	S7 AND S4
S34	0	S2 AND S4 AND S10
S35	144	S4 AND S2
S36	0	S35 AND S10
S37	2	S35 AND S7
S38	2	MODACRYL? AND S10
S39	12	S8 OR S12 OR S22 OR S31 OR S33 OR S37 OR S38
S40	12	RD S39 (unique items)
S41	19	S30 OR S32
S42	19	RD S41 (unique items)
S43	27	S42 OR S40
S44	27	RD S43 (unique items)

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44/7,DE/1

DIALOG(R) File 67:World Textiles  
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00266370 WORLD TEXTILE NO: 2012806  
Ready for the Olympics: New fibres and yarns  
Olympia-reif: Die neuen Fasern und Garne  
Maschen-Industrie, -/4 (32-33), 2002  
COUNTRY OF PUBLICATION: Germany  
DOCUMENT TYPE: Journal; Article  
RECORD TYPE: ABSTRACT  
ISSN: 0946-7718  
LANGUAGES: GERMAN SUMMARY LANGUAGES: GERMAN; ENGLISH

Developments in new fibres and yarns have concentrated very much on both function and fashion. Some new fibres are briefly reviewed, with particular reference to: steel fibres; Luminex, a glowing fabric produced from optical fibres blended with natural and synthetic yarns; X-Static and Silvertex-containing fibres; eks modified modacrylic fibres which have a warming effect; S-Shield for shielding against radiation; Keular cut-resistant yarns; Reflexx yarn with up to 25% stretch; Augusta super-soft polyethylene yarn; Elite stretch fibres; Meryl Skinlife bacteriostatic fibres; Trevira bioactive; Trevira XPAND for swimwear; Trevira denim look; Shamir exceptionally soft cashmere yarn; and Lurex Madreperla with a mother of pearl sheer.

DESCRIPTORS: SYNTHETIC FIBER; FIBER PROPERTY; SPORTSWEAR; UNDERWEAR

44/7,DE/2  
DIALOG(R)File 67:World Textiles  
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00223909 WORLD TEXTILE NO: 1966183 SUBFILE: EMDOCS  
PAN fibre variants  
AUTHOR(S): Datye K.V.  
Synthetic Fibres, 26/4 (5-14), 1997  
DOCUMENT TYPE: Journal; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: ENGLISH

The range of fibres which can be manufactured from polyacrylonitrile is considered. The type of fibres described in this article are: flame-retardant acrylic and modacrylic; nonturning acrylic; PAN precursors for carbon fibres' abrasion-resistant acrylic; short fibres; biocomponent acrylic, high-shrinkage acrylic; PAN fibres with ion-exchange properties; antistatic fibres; antibacterial fibres; and porous fibres. Products from PAN fibre waste are also briefly described.

DESCRIPTORS: POLYACRYLONITRILE; ACRYLIC FIBRES; FIBRE PROPERTIES

44/7,DE/3  
DIALOG(R)File 67:World Textiles  
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00216129 WORLD TEXTILE NO: 1958370 SUBFILE: EMDOCS  
Anti-static fibres for charge dissipation applications  
AUTHOR(S): Europa Corp. sc  
CORPORATE SOURCE: Europa Corp. sc, 05-230 Kobylka, k/Warszawy, ul Napoleona  
2, Poland  
High Performance Textiles, December/- (2), 1996

DOCUMENT TYPE: Journal; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: ENGLISH

Polish company Europa Corporation, based in Warsaw, has developed a process for modifying nylon, polyester and acrylic fibres to make them electrically conductive. The fibres are being marketed under the name Euro-Static, and have potential applications in floor coverings, automotive upholstery and in other products where static electricity is a potential hazard.

DESCRIPTORS: MANUFACTURED FIBRES-- ELECTRICALLY-CONDUCTIVE-- EURO-STAT;  
MAN-MADE FIBRES-- ELECTRICALLY-CONDUCTIVE-- EURO-STAT;  
EURO-STATIC FIBRES; FIBRES-- ANTISTATIC

44/7,DE/4  
DIALOG(R)File 67:World Textiles  
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00210055 WORLD TEXTILE NO: 1952235 SUBFILE: Emdocs  
Thermal protective fabric and core-spun heat-resistant yarn for making the same, said yarns consisting essentially of a fibreglass core and a cover of modacrylic fibres and at least one other flame-retardant fibre  
AUTHOR(S): Norfab Corp.; Lilani H.N.  
1996, 1996  
DOCUMENT TYPE: Patents; Patent  
RECORD TYPE: ABSTRACT  
PATENT NO: USP 5 506 043  
PRIORITY APPLICATION: 9 April 1996 Application: 275859, 2 June 1993  
LANGUAGES: ENGLISH

A high-temperature and thermal shock resistant textile yarn consists of a continuous glass fibre core enclosed within a fibre cover which may comprise aramid, phenolic, flame-resistant cellulosic, polybenzimidazole, partially oxidized or fully oxidized acrylic fibres individually wrapped around the core. The yarn has a core to cover ratio of about 2 to 3 by weight. IPC D02G D03D B27N.

DESCRIPTORS: YARNS; SHEATH/CORE; HEAT-RESISTANT; THERMAL-SHOCK-RESISTANT;  
GLASS FIBRES; GLASS FIBRE CORE; MODACRYLIC FIBRES; FIBRES;  
FLAME-RESISTANT; FIBRE BLENDS; INDUSTRIAL

44/7,DE/5  
DIALOG(R)File 67:World Textiles  
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00160113 WORLD TEXTILE NO: 8902270 SUBFILE: BTTG (Shirley Institute)  
Electrically-conductive thermally-stabilized acrylic fibrous material and process for preparing same  
AUTHOR(S): Hoechst Celanese Corp.; Marikar Y.M.F.; Besso M.M.  
CORPORATE SOURCE: HOECHST CELANESE  
DOCUMENT TYPE: Patents; Patent  
RECORD TYPE: ABSTRACT  
PATENT NO: USP 4 746 541  
PRIORITY APPLICATION: 24 May 1988 Application: 809654, 16 December 1985.  
LANGUAGES: ENGLISH

A process for preparing an electrically-conductive fibre from a thermally-stabilized acrylic fibre comprises: contacting the acrylic fibre with a source of cuprous ions; and contacting the fibre with a sulphiding agent capable of sulphiding the cuprous ions to form electrically-conductive covellite copper sulphide in association with the thermally-stabilized acrylic fibre. International Patent Classification B05D.

DESCRIPTORS: CONDUCTIVITY (ELECTRICAL); HEAT RESISTANCE; POLYACRYLONITRILE; FIBRES; ANTISTATIC (TYPE)

44/7,DE/6

DIALOG(R)File 67:World Textiles

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00156700 WORLD TEXTILE NO: 8806209 SUBFILE: BTTG (Shirley Institute)

Generation of triboelectric charge in textile fibre mixtures, and their use as air filters

AUTHOR(S): Smith P.A.; East G.C.; Brown R.C.; Wake D.

CORPORATE SOURCE: LEEDS UNIV

Journal of Electrostatics, 1988, 21, No.1, July, 81-98 (18 pages)., 1988

DOCUMENT TYPE: New work; Article

RECORD TYPE: ABSTRACT

LANGUAGES: ENGLISH

A study of the sign, magnitude, and lifetime of the electric charge on the constituent fibres in blends of natural, synthetic and steel fibres by indirect methods of investigation is reported. Results are also given for the filtration performance of an optimal blend of polypropylene and modacrylic fibres, the electric charge on which results in a high filtration efficiency for submicron particles.

DESCRIPTORS: TRIBOELECTRICITY; GAS FILTRATION; FILTRATION; FILTERS (FLUID); CHARGE (ELECTRICAL); STATIC ELECTRICITY DECAY; STATIC ELECTRICITY; EFFICIENCY (PROCESS); BLENDS (FIBROUS MATERIALS); FIBRES; POLYPROPYLENE; POLYACRYLONITRILE; CELLULOSE SECONDARY ACETATE; STAINLESS STEEL; STEEL; COTTON; SILK; POLYESTER; NYLON 66; POLY (VINYL CHLORIDE); MODACRYLIC; WOOL

44/7,DE/7

DIALOG(R)File 67:World Textiles

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00155886 WORLD TEXTILE NO: 8805395 SUBFILE: BTTG (Shirley Institute)

Conductive acrylic fibre for antistatic nonwoven fabrics

AUTHOR(S): Rush H.A.; Streetman W.E.

CORPORATE SOURCE: BASF

Tappi Journal, 1988, 71, No.7, July, 109-111 (3 pages)., 1988

DOCUMENT TYPE: Technical information; Article

RECORD TYPE: ABSTRACT

LANGUAGES: ENGLISH

The use and antistatic properties of carbon-coated acrylic fibres in nonwoven fabrics for use as a primary backing in computer-grade carpets tufted with antistatic face yarn are described.

DESCRIPTORS: ANTISTATIC BEHAVIOUR; STATIC ELECTRICITY; PERFORMANCE;  
RESISTANCE (ELECTRICAL); POLYACRYLONITRILE; FIBRES; ANTISTATIC  
(TYPE); COATINGS (SUBSTANCES); CARBON; APPLICATIONS; CARPET  
BACKING; CARPETS

44/7,DE/8

DIALOG(R)File 67:World Textiles  
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00151598 WORLD TEXTILE NO: 8801088 SUBFILE: BTTG (Shirley  
Institute)

Effect of heat treatment and moisture content on the electrical  
conductivity of metallized Nitron fibres

AUTHOR(S): Akbarov D.N.; Vlasenko G.F.; Enikeeva A.K.; Mikhailova O.Yu.;  
Samoilova L.A.; Ovchinnikova T.N.

Khimicheskoe Volokna, 1987, 29, No.6, 12-14 (3 pages)., 1987

DOCUMENT TYPE: New work; Technical information; Article

RECORD TYPE: ABSTRACT

LANGUAGES: RUSSIAN

The effect of drying and heat-setting conditions on the electrical  
conductivity of nickel-coated Nitron (acrylic) fibres is investigated. To  
prevent oxidation of the nickel coating, drying must be carried out at  
120-140 degrees C, with forced evacuation of the vapour. Heat-setting has a  
favourable effect on the electrical properties.

DESCRIPTORS: CONDUCTIVITY (ELECTRICAL); COATING (PROCESS); CORROSION;  
OXIDATION; MOISTURE CONTENT; NITRON (TN); POLYACRYLONITRILE;  
FIBRES; ANTISTATIC (TYPE); TIME; DRYING; TEMPERATURE; HEAT  
SETTING (SYNTHETICS); NICKEL; COATINGS (SUBSTANCES)

44/7,DE/9

DIALOG(R)File 67:World Textiles  
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00148696 WORLD TEXTILE NO: 8705671 SUBFILE: BTTG (Shirley  
Institute)

Reasons for the long-term retention of antistatic properties by acrylic  
fibres modified at the gel stage with the diacrylic ester of polyethylene  
glycol-9

AUTHOR(S): Peskova V.I.; Beder N.M.; Glazkovskii Yu.V.; Mikheeva L.A.;  
Kukushkina S.A.

Khimicheskoe Volokna, 1987, 29, No.2, 33-35 (3 pages)., 1987

DOCUMENT TYPE: New work; Technical information; Article

RECORD TYPE: ABSTRACT

LANGUAGES: RUSSIAN

The washfastness of antistatic finishes on acrylic fibres modified at the  
gel stage with a specified polyethylene glycol when boiling water is used  
is investigated. It is thought that the retention of the antistatic  
properties is due to the cryptoheterogeneity effect during laundering and  
possibly to the migration of the finish from the pores in the fibres to  
their surface under specific drying conditions.

DESCRIPTORS: ANTISTATIC AGENTS; ANTISTATIC TREATMENTS; CHEMICAL  
MODIFICATION (FIBRES); WASHFASTNESS (OF FINISH); CONDUCTIVITY

(ELECTRICAL); ANTISTATIC BEHAVIOUR; FINE STRUCTURE; MIGRATION  
(SUBSTANCE); GELS; POLYACRYLONITRILE; FIBRES; ANTISTATIC  
(TYPE); POLYETHOXY ESTERS; ADDITIVES (CHEMICAL); CONCENTRATION  
; LAUNDERING; TIME; TEMPERATURE

44/7,DE/10

DIALOG(R)File 67:World Textiles  
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00145958 WORLD TEXTILE NO: 8702933 SUBFILE: BTTG (Shirley  
Institute)

Change in the structure and mechanical properties of Nitron fibres during  
metallization

AUTHOR(S): Akbarov D.N.; Enikeeva A.K.; Samoilova L.A.; Nikonovich G.V.  
Khimicheskie Volokna, 1986, 28, No.6, 39-40 (2 pages)., 1986

DOCUMENT TYPE: Technical information; New work; Article

RECORD TYPE: ABSTRACT

LANGUAGES: RUSSIAN

The effect of metallization conditions (time and temperature) on the  
structure and mechanical properties of conducting nickel-coated acrylic  
fibres is examined. Changes in the amorphous and crystalline regions are  
observed. The amount of nickel has a considerable effect on the structure  
and properties of the fibres.

DESCRIPTORS: ADD ON; CONDUCTIVITY (ELECTRICAL); FINE STRUCTURE; CRYSTAL  
STRUCTURE; CRYSTALLINE REGION; AMORPHOUS REGION; MECHANICAL  
PROPERTIES; NITRON (TN); POLYACRYLONITRILE; FIBRES; ANTISTATIC  
(TYPE); METALLIZATION; COATING (PROCESS); TIME; TEMPERATURE;  
NICKEL; COATINGS (SUBSTANCES)

44/7,DE/11

DIALOG(R)File 67:World Textiles  
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00144224 WORLD TEXTILE NO: 8701199 SUBFILE: BTTG (Shirley  
Institute)

Conductive acrylic fibres

AUTHOR(S): Nippon Sanmo Dyeing Co. Ltd

CORPORATE SOURCE: NIPPON SANMO

Chemiefasern/Textilindustrie, 1986, 36/88, No.12, T141 (1 page)., 1986

DOCUMENT TYPE: Technical information; New work; Article

RECORD TYPE: ABSTRACT

LANGUAGES: GERMAN

Thunderon SS-N acrylic fibres by Nippon Sanmo Dyeing Co. Ltd can be treated  
by a special process with copper ions, enabling the fibre to conduct  
electricity. The advantages and applications of the treated fibre are  
briefly outlined, e.g. carpets, upholstery fabrics (in computer rooms and  
aircraft), protective gloves for the electronics industry, curtains and  
wallcoverings.

DESCRIPTORS: ANTISTATIC TREATMENTS; CHEMICAL MODIFICATION (FIBRES);  
CONDUCTIVITY (ELECTRICAL); THUNDERON SSN (TN); ANTISTATIC  
(TYPE); POLYACRYLONITRILE; FIBRES; ANTISTATIC AGENTS; COPPER  
COMPOUNDS; APPLICATIONS; CARPETS; UPHOLSTERY FABRICS; FABRICS;  
AIRCRAFT; AEROSPACE; GLOVES



44/7,DE/12

DIALOG(R)File 67:World Textiles

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00143803 WORLD TEXTILE NO: 8700778 SUBFILE: BTTG (Shirley  
Institute)

Use of calcium salts as antistatic agents

AUTHOR(S): Abdurakhmanova Sh.G.; Dzhallilov Sh.S.; Tushkova R.Ya.

Khimicheskies Volokna, 1986, 28, No.4, 24-25 (2 pages)., 1986

DOCUMENT TYPE: Technical information; New work; Article

RECORD TYPE: ABSTRACT

LANGUAGES: RUSSIAN

The antistatic treatment of acrylic fibres by adding calcium chloride to the polymer is briefly described. The interaction between the fibres and calcium cations is studied by infrared spectroscopy. The antistatic behaviour of the fibres is found to be good.

DESCRIPTORS: ANTISTATIC TREATMENTS; ANTISTATIC BEHAVIOUR; ADD ON; CHEMICAL MODIFICATION (POLYMERS); INFRARED SPECTROSCOPY; POLYACRYLONITRILE; DOPE (POLYMER); FIBRES; ANTISTATIC (TYPE); CALCIUM COMPOUNDS; CALCIUM CHLORIDE; CONCENTRATION; ANTISTATIC AGENTS; SORPTION OF WATER; TEMPERATURE; RELATIVE HUMIDITY

44/7,DE/13

DIALOG(R)File 67:World Textiles

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00140864 WORLD TEXTILE NO: 8606077 SUBFILE: BTTG (Shirley  
Institute)

Use of Nitril-Static fibres for imparting antistatic properties to carpets

AUTHOR(S): Okoniewski M.

CORPORATE SOURCE: INST WLOK

Prace Instytutu Wlokiennictwa, 1984, 34, 77-84 (8 pages)., 1984

DOCUMENT TYPE: New work; Technical information; Article

RECORD TYPE: ABSTRACT

LANGUAGES: POLISH

The production and properties of an antistatic acrylic fibre (Nitril-Static) for use in carpets are discussed. These fibres contain cuprous sulphide covalently bonded with the nitrile groups in the fibre. The resistivity is 100 to 1000 ohms.cm and the finish is washfast. It is shown that the incorporation of 8-10% of these antistatic fibres in a carpet yarn imparts very good antistatic properties to the whole of the carpet. The voltage generated during the walking test does not exceed 1 kV.

DESCRIPTORS: CHEMICAL MODIFICATION (FIBRES); FIBRE PROPERTIES; FIBRE LENGTH ; TENACITY; BREAKING STRENGTH; FIBRE DIAMETER; STATIC ELECTRICITY; CONDUCTIVITY (ELECTRICAL); WASHFASTNESS (OF FINISH); WALKING TESTS; COVALENT BONDS; NITRIL STATIC (TN); ANTISTATIC (TYPE); POLYACRYLONITRILE; FIBRES; CARPETS; ANTISTATIC AGENTS; CUPROUS COMPOUNDS; SULPHIDES (INORGANIC)

44/7,DE/14

DIALOG(R)File 67:World Textiles

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00139640 WORLD TEXTILE NO: 8604521 SUBFILE: BTTG (Shirley  
Institute)  
Antistatic treatment of Melana (acrylic) fibres by inclusion  
AUTHOR(S): Cruceanu M.; Popa A.; Popovici E.; Vasile A.; Alexandroaei M.;  
Iacob C.; Suciu V.  
CORPORATE SOURCE: IASI PI  
Mater. Plast. (Bucharest), 1985, 22, No.4, 233-235. (Through Chemical  
Abstracts, 1986, 104, No.20, abstract 169968.), 1985  
DOCUMENT TYPE: New work; Technical information; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: ROMANIAN

The inclusion of an oxide pigment, C 200, in the spinning solution in order  
to obtain long-term antistatic properties and enhanced physicomachanical  
properties is investigated with particular regard to the effects of pigment  
concentration and particle size.

DESCRIPTORS: PARTICLE SIZE; ANTISTATIC TREATMENTS; MELT SPINNING; EXTRUSION  
; MECHANICAL PROPERTIES; FIBRE PROPERTIES; FIBRE DIAMETER;  
MELANA (TN); POLYACRYLONITRILE; MELT (POLYMER); FIBRES;  
ANTISTATIC (TYPE); CONCENTRATION; OXIDES; PIGMENTS; DYES;  
ANTISTATIC AGENTS

44/7,DE/15

DIALOG(R)File 67:World Textiles  
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00129128 WORLD TEXTILE NO: 8501961 SUBFILE: BTTG (Shirley  
Institute)  
Fibres to replace asbestos  
AUTHOR(S): Hagege --.; Hodgson --.  
Industrie Textile, 1985, No.1151, January, 25-27 (3 pages).., 1985  
DOCUMENT TYPE: Technical information; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: FRENCH

A short report is given of the proceedings of a conference at UMIST held in  
April 1984 on replacements for asbestos. Fibres referred to are  
polybenzimidazole, Kuralon, polyester/polyvinyl alcohol fibrils, glass  
fibres, acrylic fibres, steel fibres, and aramid and carborundum fibres.

DESCRIPTORS: ASBESTOS; SUBSTITUTION (REPLACEMENT OF); SYNTHETIC; FIBRES

44/7,DE/16

DIALOG(R)File 67:World Textiles  
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00125199 WORLD TEXTILE NO: 8405583 SUBFILE: BTTG (Shirley  
Institute)  
Asbestos replacement  
AUTHOR(S): Beech R.  
CORPORATE SOURCE: UMIST  
Textile Horizons, 1984, 4, No.7, July, 32-35 (3 pages).., 1984  
DOCUMENT TYPE: Technical information; Article  
RECORD TYPE: ABSTRACT

LANGUAGES: ENGLISH

A summary is given of papers presented at a symposium held 3-4 April 1984 at the University of Manchester Institute of Science and Technology, UK, entitled 'Asbestos replacement', in which speakers reviewed the advantages and drawbacks of a variety of alternative fibres which may be used as a substitute for asbestos. Reference is made to glass fibres, alumino silicate fibres, steel fibres, Kevlar (aramid) fibres, polybenzimidazole fibres, Panotex pre-carbon fibres or oxidized acrylic fibres, partially-carbonized cellulosic fibres, acrylic fibres, polyolefin fibrids, and polyvinyl alcohol fibres.

DESCRIPTORS: INDUSTRIAL FABRICS (GENERAL); FABRICS; AUTOMOTIVE FABRICS; APPLICATIONS; END USE PROPERTIES; INDUSTRIAL HAZARDS; HEALTH HAZARDS (GENERAL); GLASS; ALUMINIUM SILICATE; STEEL; KEVLAR (TN); AROMATIC POLYAMIDE; POLY (PHENYLENE PHTHALAMIDE); POLYBENZIMIDAZOLES; PANOTEX (TN); HEAT MODIFIED (TYPE); HEAT RESISTANT (TYPE); POLYACRYLONITRILE; POLYOLEFIN; ASBESTOS; FIBRES; CELLULOSIC

44/7,DE/17

DIALOG(R)File 67:World Textiles  
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00124482 WORLD TEXTILE NO: 8405157 SUBFILE: BTTG (Shirley Institute)

Permanent antielectrostatic modification of polyacrylonitrile fibres with block copolyetheresters. I. Dissolution and antielectrostatic effects of the modifiers

AUTHOR(S): Albrecht W.; Becker M.; Grobe V.; Makshin W.; Dietrich K.; Mann G.

CORPORATE SOURCE: IPC TELTOW SEEHOF  
Acta Polymerica, 1984, 35, No.4, 309-315 (7 pages)., 1984  
DOCUMENT TYPE: New work; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: GERMAN

Block copolyetheresters are characterized with respect to their antielectrostatic effect and dissolving in dimethyl formamide (DMF) and DMF/water mixtures. The conductivity, being higher than that of derivatized polyethylene glycol, is favoured by the peculiarities of the chemical structure. The conditions of application as an antistatic agent for acrylic fibres are established. Block copolyetheresters with 80-85% polyethylene glycol were found to be most suitable.

DESCRIPTORS: CHEMICAL MODIFICATION (FIBRES); ANTISTATIC BEHAVIOUR; POLYACRYLONITRILE; FIBRES; POLYESTERETHER; COPOLYMERS; ANTISTATIC AGENTS; DOPE (POLYMER); ADDITIVES (CHEMICAL); DIMETHYL FORMAMIDE; SOLVENTS

44/7,DE/18

DIALOG(R)File 67:World Textiles  
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00124439 WORLD TEXTILE NO: 8405114 SUBFILE: BTTG (Shirley Institute)

Permanent antielectrostatic modification of polyacrylonitrile fibres with block copolyetherester. II. Antielectrostatic properties of modified

fibres

AUTHOR(S): Albrecht W.; Grobe V.; Klug P.; Makshin W.; Mann G.  
CORPORATE SOURCE: IPC TELTOW SEEHOF  
Acta Polymerica, 1984, 35, No.5, 410-414 (5 pages)., 1984  
DOCUMENT TYPE: New work; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: GERMAN

Block copolyetheresters were added to polyacrylonitrile spinning solutions and the conductivity of the fibres was measured. These additives were found to be appropriate antistatic modifiers for wet-spun acrylic fibres. The conditions of coagulation exert a significant influence on the permanency of the antistatic effect, the cause of which is explained.

DESCRIPTORS: ANTISTATIC BEHAVIOUR; DOPE (POLYMER); ADDITIVES (CHEMICAL);  
POLYESTERETHER; ANTISTATIC AGENTS; POLYACRYLONITRILE; FIBRES;  
ANTISTATIC (TYPE)

44/7,DE/19

DIALOG(R)File 67:World Textiles  
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00119763 WORLD TEXTILE NO: 8400342 SUBFILE: BTTG (Shirley  
Institute)  
Antistatic fibres  
AUTHOR(S): Instytut Wlokiennictwa  
CORPORATE SOURCE: INST WLOK  
Textiltechnik, 1983, 33, No.11, 634 (1 page)., 1983  
DOCUMENT TYPE: Technical information; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: GERMAN

Brief details of an antistatic acrylic fibre developed for use in blends (3-5%) with other synthetic fibres are given. During dyeing, copper(I) sulphide is added to the dye liquor forming semipolar bonds with the functional groups of the fibres. The acrylic fibres are made antistatic by treatment with a liquor which contains a complex copper compound as well as a reducing chemical compound. The fibres are used mainly for floor coverings, furnishing fabrics, protective clothing, and industrial fabrics.

DESCRIPTORS: APPLICATIONS; DYEING; POLYACRYLONITRILE; FIBRES; ANTISTATIC  
(TYPE); SYNTHETIC; BLENDS (FIBROUS MATERIALS)

44/7,DE/20

DIALOG(R)File 67:World Textiles  
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00111732 WORLD TEXTILE NO: 8300124 SUBFILE: BTTG (Shirley  
Institute)  
Modification of as-spun acrylic fibres with polyethylene glycols  
Khimicheskije Volokna, 1982, 24, No.5, 40-42 (3 pages)., 1982  
DOCUMENT TYPE: Technical information; New work; Article  
RECORD TYPE: ABSTRACT  
LANGUAGES: RUSSIAN

The results of processing as-spun acrylic fibres with aqueous solutions of polyethylene glycol are given. It is shown that acrylic fibres modified in

this way retain their antistatic properties after drycleaning, laundering and hot-air drying.

DESCRIPTORS: CHEMICAL MODIFICATION (FIBRES); ANTISTATIC TREATMENTS;  
ANTISTATIC BEHAVIOUR; STATIC ELECTRICITY; CONDUCTIVITY  
(ELECTRICAL); WASHFASTNESS (OF FINISH); DRY CLEANING FASTNESS  
(OF FINISH); FINE STRUCTURE; ELECTRON MICROSCOPY;  
PHOTOMICROGRAPHS; INFRARED SPECTROSCOPY; POLYACRYLONITRILE;  
GELS; FIBRES; POLYETHYLENE GLYCOLS; ANTISTATIC AGENTS;  
CONCENTRATION; HOT AIR DRYING; TEMPERATURE

44/7,DE/21

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00102776 WORLD TEXTILE NO: 8109725 SUBFILE: BTTG (Shirley  
Institute)  
Electrically-conductive nonwoven fabric  
DOCUMENT TYPE: Patents; Patent  
RECORD TYPE: CITATION  
PATENT NO: BP 1 602 198  
LANGUAGES: ENGLISH  
DESCRIPTORS: NEEDLING; NONWOVEN FABRIC MANUFACTURE; CONDUCTIVITY  
(ELECTRICAL); ELECTRICAL PROPERTIES; ANTISTATIC BEHAVIOUR;  
STEEL; FIBRES; ANTISTATIC (TYPE); POLYAMIDE; WOOL; WEBS;  
NONWOVEN FABRICS; FABRICS

44/7,DE/22

DIALOG(R)File 67:World Textiles  
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00100767 WORLD TEXTILE NO: 8107714 SUBFILE: BTTG (Shirley  
Institute)  
Antistatic effect of modified acrylic fibres  
AUTHOR(S): Anufrieva V.I.; Beder N.M.; Chegolya A.S.; Vaiman E.Ya.;  
Glazkovskii Yu.V.; Mikheeva L.A.  
Khimicheskie Volokna, 1981, 23, No.4, 35-36 (2 pages), 1981  
DOCUMENT TYPE: Technical information; New work; Article  
RECORD TYPE: CITATION  
LANGUAGES: RUSSIAN  
DESCRIPTORS: ANTISTATIC TREATMENTS; ANTISTATIC BEHAVIOUR; CHEMICAL  
MODIFICATION (FIBRES); STATIC ELECTRICITY; RESISTANCE  
(ELECTRICAL); WASHFASTNESS (OF FINISH); INFRARED SPECTROSCOPY;  
POLYACRYLONITRILE; FIBRES; ANTISTATIC AGENTS; CHEMICAL  
COMPOSITION; POLYETHOXY ESTERS

44/7,DE/23

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00097627 WORLD TEXTILE NO: 8104572 SUBFILE: BTTG (Shirley  
Institute)  
Research into the modification of acrylic fibres and new special types  
AUTHOR(S): Dawczynski H.; Peter E.; Grobe V.  
CORPORATE SOURCE: SCHWARZA  
Textil, 1981, 36, No.4, 119-122 (4 pages), 1981



DOCUMENT TYPE: Technical information; New work; Article

RECORD TYPE: CITATION

LANGUAGES: CZECH

DESCRIPTORS: ABSORBENCY (MATERIAL); POROSITY; STATIC ELECTRICITY; FLAME  
RESISTANCE; SHRINKAGE; CHEMICAL MODIFICATION (FIBRES);  
WASHFASTNESS (OF FINISH); LINEAR DENSITY; CONDUCTIVITY  
(ELECTRICAL); OXYGEN INDEX VALUES; SORPTION OF WATER;  
POLYACRYLONITRILE; FIBRES; ANTISTATIC (TYPE); FLAME RESISTANT  
(TYPE); HIGH SHRINKAGE (TYPE)

44/7,DE/24

DIALOG(R)File 67:World Textiles

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00067432 WORLD TEXTILE NO: 7801436 SUBFILE: BTTG (Shirley  
Institute)

Polymers for extreme service conditions

AUTHOR(S): Mark H.F.

CORPORATE SOURCE: NEW YORK PI

Macromolecules, 1977, 10, No.5, 881-888 (8 pages), 1977

DOCUMENT TYPE: Reviews and surveys; Review

RECORD TYPE: CITATION

LANGUAGES: ENGLISH

DESCRIPTORS: SPACE TRAVEL ENGINEERING; DIFFUSION; FIBRE PROPERTIES; HIGH  
MODULUS; FIBRE STRENGTH; STIFFNESS; CIVIL ENGINEERING; ELASTIC  
MODULUS (TENSILE); FIBRE REINFORCED COMPOSITES; TYRE CORDS;  
BREAKING STRENGTH; EQUIPAGE; VAN DER WAALS FORCES; AIRCRAFT;  
BREAKING ELONGATION; HEAT RESISTANCE; CHEMICAL STABILITY;  
LADDER POLYMERS; CHEMICAL COMPOSITION; HOLLOW FIBRES;  
LAMINATED FABRICS; FABRICS; COMPOSITES; BENDING RIGIDITY;  
STRESS STRAIN CURVES; KEVLAR (TN); AROMATIC POLYAMIDE; FIBRES;  
STEEL; GLASS; MODMOR (TN); CARBON; ALUMINA; BORON CARBIDE;  
BORON NITRIDE; POLYIMIDE; POLYBENZIMIDAZOLES; POLYBENZOXAZOLES  
; POLYBENZOTHAZOLES; AROMATIC POLYESTER; FILMS;  
POLYOXADIAZOLES; POLYPYRROLONE; POLYPHENYLQUINOXALINES;  
BONDING AGENTS (GENERAL); POLYETHER; ISOCYANATES; EPOXY RESINS  
; POLYACRYLATES; MALEIMIDE; ADHESION; RUBBER; CARBONIZATION  
(FIBRES); FIBRE PRECURSORS; POLYACRYLONITRILE; BITUMEN;  
VISCOSE RAYON

44/7,DE/25

DIALOG(R)File 67:World Textiles

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00047351 WORLD TEXTILE NO: 7506989 SUBFILE: BTTG (Shirley  
Institute)

Thermal behaviour of flame-resistant fibres and fabrics

AUTHOR(S): Bingham M.A.; Hill B.J.

CORPORATE SOURCE: LIRA

J. Therm. Anal., 1975, 7, No.2, 347-358 (Through Chemical Abstracts, 1975,  
83, No.10, abstract 80974), 1975

DOCUMENT TYPE: New work; Article

RECORD TYPE: CITATION

LANGUAGES: ENGLISH

DESCRIPTORS: THERMAL DEGRADATION; HEAT RESISTANCE; CHEMICAL STABILITY;  
GRAVIMETRIC ANALYSIS; DIFFERENTIAL THERMAL ANALYSIS; THERMAL  
ANALYSIS; MECHANISM (FUNDAMENTAL); CELLULOSIC; COTTON; DARELLE

(TN); FLAME RESISTANT (TYPE); VISCOSE RAYON; DURETTE (TN);  
AROMATIC POLYAMIDE; KERMEL (TN); HEAT RESISTANT (TYPE);  
POLYAMIDIMIDE; NOMEX (TN); POLY (PHENYLENE PHTHALAMIDE); KYNOL  
(TN); PHENOLIC (PHENOL FORMALDEHYDE CONDENSATES); CARBON;  
POLYBENZIMIDAZOLES; GLASS; POLY (VINYL CHLORIDE); MODACRYLIC;  
FIBRES; FABRICS

44/7,DE/26

DIALOG(R)File 67:World Textiles

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00029804 WORLD TEXTILE NO: 7306693 SUBFILE: BTTG (Shirley  
Institute)

Novel acrylic fibre and a method for manufacturing the same

DOCUMENT TYPE: Patents; Patent

RECORD TYPE: CITATION

PATENT NO: BP 1 329 126

LANGUAGES: ENGLISH

DESCRIPTORS: ANTISTATIC BEHAVIOUR; PREPARATION (CHEMICAL); MODACRYLIC;  
POLYACRYLONITRILE; FIBRES; ANTISTATIC (TYPE)

44/7,DE/27

DIALOG(R)File 67:World Textiles

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00018118 WORLD TEXTILE NO: 7203434 SUBFILE: BTTG (Shirley  
Institute)

Orientation of antistatic agents at the surface of acrylic fibres

AUTHOR(S): Wakelyn P.J.; Johnson R.F.

CORPORATE SOURCE: TEXAS TECH UNIV

Journal of the Society of Dyers and Colourists, 1972, 88, No. 4, 150-151 (2  
pages)., 1972

DOCUMENT TYPE: New work; Article

RECORD TYPE: CITATION

LANGUAGES: ENGLISH

DESCRIPTORS: FIBRE SURFACE; POLYACRYLONITRILE; FIBRES; ANTISTATIC AGENTS;  
ORIENTATION

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